STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 105341

TO: David Lukton **Location:** 9B01 - 9B05 **Art Unit: 1653** **October 4, 2003** **Case Serial Number: 09/822376**	**From: P. Sheppard** **Location: CM1-1E03** **Phone: (703) 308-4499** **sheppard@uspto.gov**

Search Notes

Access DB# 105341

SEARCH REQUEST FORM

Scientific and Technical Information Center

DAVID LUKTON 71263 10-03-03

Requester's Full Name: _____ Examiner # : _____ Date:

Art Unit: 1653 Phone Number 308-3213 Serial Number: 09-822376

Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

Mailbox: 9B01 ; Exr Rm: 9B05

If more than one search is submitted, please prioritize searches in order of need.

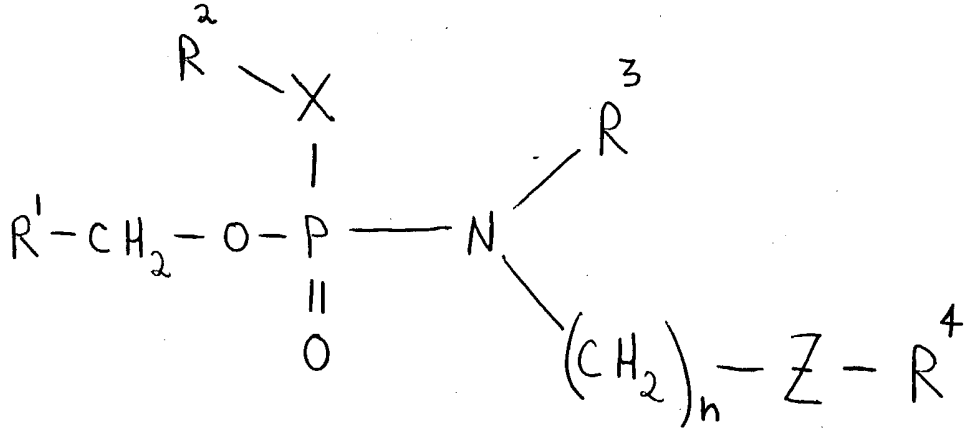
Title of Invention: Phosphoramidates and Methods Therefor

Applicants: BORCH, RICHARD F.; GARRIDO-HERNANDEZ, HUGO; TOBIAS, SANDRA

Earliest Priority Date: 4/3/00

* * * *

Applicants are claiming the following compounds:



Z = halogen or **-O-** or **-S-**

X = **-O-** or **-N-**

R^1 = anything

R^2 = anything that contains at least one carbon atom.

R^3 = C_1 - C_4 alkyl

R^4 = anything (or is absent)

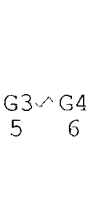
n is an integer of 4 or 5.

STAFF USE ONLY

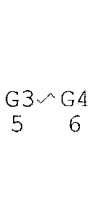
```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:51:58 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 4 Oct 2003  VOL 139 ISS 15
FILE LAST UPDATED: 2 Oct 2003  (20031002/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=>
=>

=> d stat que l8
L3                STR
```



```
VAR G1=O/N
REP G3=(1-5) C
VAR G4=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L5            652 SEA FILE=REGISTRY SSS FUL L3
L6                STR
```



```
VAR G1=O/N
REP G3=(4-5) C
```

VAR G4=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE
L7 3 SEA FILE=REGISTRY SUB=L5 SSS FUL L6
L8 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L7

=>
=>

=> d ibib abs hitrn l8 1-5

L8 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:72120 HCAPLUS
DOCUMENT NUMBER: 126:96834
TITLE: Color diffusion-transfer photographic material with good storage stability and high transferring concentration
INVENTOR(S): Naruse, Hideaki; Yasuda, Tomokazu
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08292536	A2	19961105	JP 1995-116584	19950419

PRIORITY APPLN. INFO.: JP 1995-116584 19950419
AB The material contains C6H5-n(SO2NH2)(X)n [X = (cyclo) alkyl, aryl (alkyl), alkenyl, alkoxy, aryloxy, acyl (amino), sulfonylamino, ureido, alkylthio, arylthio, alkoxycarbonyl, carbamoyl, sulfamoyl (amino), SO2, urethane, amino, CN, OH, phosphoric acid ester, heterocycle; n = 1-5] and P(:O)(Q1R1)(Q2R1)(Q3-L-Z) [R1 = aliph. (cyclic) group, arom. group, heterocycle; R2 = an aliph. group, an arom. group, a heterocycle, L-Z; Q1-3 = direct link, O, S, N(R3), N(R3)CO; R3 = H, R2; L = a bivalent linkage; Z = an ionic group].
IT **185554-47-6**
RL: DEV (Device component use); USES (Uses)
(dispersing agent; color diffusion-transfer photog. material with good storage stability and high transferring concn.)

L8 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:61279 HCAPLUS
DOCUMENT NUMBER: 124:131438
TITLE: High contrast silver halide photographic material with excellent storage stability
INVENTOR(S): Suzuki, Keiichi; Sakurai, Seiya
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 81 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07295131	A2	19951110	JP 1994-110200	19940427

PRIORITY APPLN. INFO.: JP 1994-110200 19940427

AB The title material contains a hydrazine deriv.(s), R1NA1NA2G1R2 [R1 = aliph., arom.; R2 = H, alkyl, aryl, unsatd. heterocyclyl, alkoxy, aryloxy, amino, hydrazino; G1 = CO, SO2, SO, POR3, COCO, thiocarbonyl, iminomethylene; A1, A2 = H, alkylsulfonyl, arylsulfonyl, acyl; R3 = H, alkyl, aryl, unsatd. heterocyclyl, alkoxy, aryloxy, amino, hydrazino], and a surfactant(s), OP(Q1R1)(Q2R2)(Q3LZ) [R1 = aliph., alicyclic, arom., heterocyclyl; R2 = aliph., alicyclic, arom., heterocyclyl, LZ; Q1-3 = single bond, O, S, NR3, NR3CO; R3 = H, aliph., alicyclic, arom., heterocyclyl, LZ; L = divalent connecting group; Z = ionic group] in a photog. emulsion layer(s) and/or hydrophilic colloidal layer(s), and dye solid dispersions.

IT **169225-97-2**

RL: DEV (Device component use); USES (Uses)
(high contrast silver halide photog. material with excellent storage stability contg.)

L8 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:999863 HCAPLUS
DOCUMENT NUMBER: 124:131435
TITLE: Silver halide photographic material containing phosphate surfactant for platemaking
INVENTOR(S): Kato, Kazunobu; Yasuda, Tomokazu
PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07261315	A2	19951013	JP 1994-75511	19940323

PRIORITY APPLN. INFO.: JP 1994-75511 19940323

AB The photog. material having .gtoreq.1 Ag halide photog. emulsion layer and a hydrophilic colloid layer contains a hydrazine deriv., a development-inhibitor-releasing redox compd. at development, and P(O)(Q1R1)(Q2R2)(Q3LZ) (R1-3 = H, aliph. group, alicyclic group, arom. group, heterocycle, LZ; R1 .noteq. LZ; R1 = R2 .noteq. H; Q1-3 = none, O, S, NR3, NR3CO; L = divalent linking group; Z = ionic group). The title method comprises treatment of the photog. material with a pH 9.0-11.0 developer. The material gives high-contrast images with good reprodn.

IT **169225-97-2**

RL: DEV (Device component use); USES (Uses)
(surfactant; silver halide photog. material contg. phosphate surfactant for platemaking)

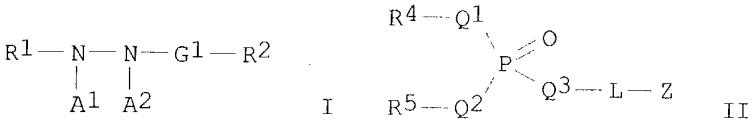
L8 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:869525 HCAPLUS
DOCUMENT NUMBER: 123:270646
TITLE: Silver halide photographic material and photographic image formation method using same
INVENTOR(S): Ezoe, Toshihide; Yasuda, Tomokazu
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 74 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 670516	A2	19950906	EP 1995-102456	19950221
EP 670516	A3	19970115		
EP 670516	B1	19980715		
R: DE, FR, GB				
JP 07287335	A2	19951031	JP 1995-52036	19950217
US 5496681	A	19960305	US 1995-393170	19950221

PRIORITY APPLN. INFO.: JP 1994-47961 19940223
OTHER SOURCE(S): MARPAT 123:270646
GI



I II

AB A Ag halide photog. material comprises a hydrazine deriv. I [R1 = aliph. or arom. group; R2 = H, alkyl, aryl, unsatd. heterocyclic group, alkoxy, aryloxy, amino or hydrazino; G1 = -CO-, SO2-, -PO(R3)- or -CO-CO-, thiocarbonyl group or iminomethylene group, in which R3 has the same meaning as R2; A1,2 are both H, or 1 of them is H and the other is an alkylsulfonyl group, an arylsulfonyl group, or an acyl group], and a surface active compd. II [R4 = aliph., alicyclic, arom. or heterocyclic group; R5 = aliph., alicyclic, arom., or heterocyclic group or a group represented by -L-Z in which L = divalent linkage group; and Z = ionic group; and Q1-3 = single bond, O, S or a group represented by -N(R6)- or -N(R6)-CO-, in which R6 = H or has the same meaning as R5; .gtoreq.2 of R4, R5 and L may be combined with each other to form a ring; and the surface active compd. may be represented by combining .gtoreq.2 of II's via R4, R5 and L]. The above photog. material is developed by a developer having a pH of 9.0-11.0.

IT **169225-97-2**
RL: DEV (Device component use); USES (Uses)
(surface active compd. for photog. material)

L8 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1970:475996 HCAPLUS
DOCUMENT NUMBER: 73:75996
TITLE: Herbicidal organophosphorus-nitrogen compositions
INVENTOR(S): Wollensak, John C.; Christenson, Kenneth M.; Zutaut, David W.
PATENT ASSIGNEE(S): Ethyl Corp.
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3511632	A	19700512	US 1967-658321	19670804

PRIORITY APPLN. INFO.: US 1967-658321 19670804

AB Formulations contg. organophosphorus-N compds. R1R2NP(X)(XR3)2, wherein R1 and R3 are alkyl, alkenyl, aryl, aralkyl, alkaryl, and alicyclic groups having up to 12 C atoms, R2 is H or a hydrocarbon group as described for R1 and R3, and X is O or S, are useful plant defoliants and herbicides.

IT **28847-19-0**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(herbicides)

=>
=>

=> fil caold
FILE 'CAOLD' ENTERED AT 11:52:11 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=>
=>
=> s l7
L9 0 L7

=>
=>

=> fil reg
FILE 'REGISTRY' ENTERED AT 11:52:19 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 OCT 2003 HIGHEST RN 596788-60-2
DICTIONARY FILE UPDATES: 1 OCT 2003 HIGHEST RN 596788-60-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

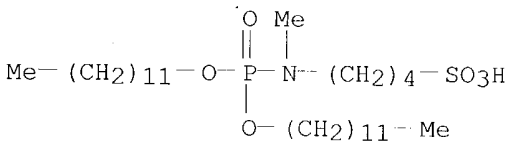
Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties

in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>
=>

=> d ide can l7 tot

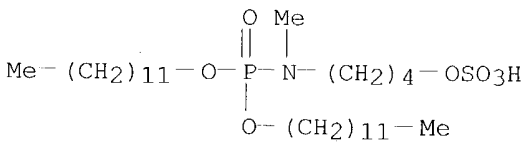
L7 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN
RN 185554-47-6 REGISTRY
CN 1-Butanesulfonic acid, 4-[[bis(dodecyloxy)phosphinyl]methylamino]-, sodium salt (9CI) (CA INDEX NAME)
MF C29 H62 N O6 P S . Na
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:96834

L7 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN
RN 169225-97-2 REGISTRY
CN Phosphoramidic acid, methyl[4-(sulfooxy)butyl]-, P,P-didodecyl ester, sodium salt (9CI) (CA INDEX NAME)
MF C29 H62 N O7 P S . Na
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

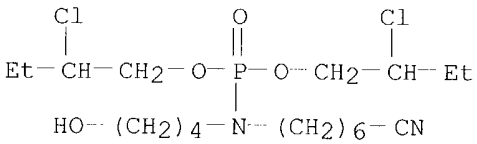
REFERENCE 1: 124:131438

REFERENCE 2: 124:131435

REFERENCE 3: 123:270646

L7 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN

RN 28847-19-0 REGISTRY
CN Phosphoramidic acid, (6-cyanohexyl)(4-hydroxybutyl)-, bis(2-chlorobutyl) ester (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Butanol, 2-chloro-, (6-cyanohexyl)(4-hydroxybutyl)phosphoramidate (2:1) (8CI)
FS 3D CONCORD
MF C19 H37 Cl2 N2 O4 P
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

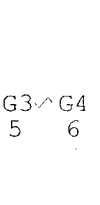
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 73:75996

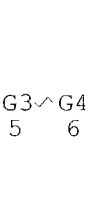
```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:53:45 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 4 Oct 2003  VOL 139 ISS 15
FILE LAST UPDATED: 2 Oct 2003  (20031002/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=>
=>

=> d stat que
L3                STR
```

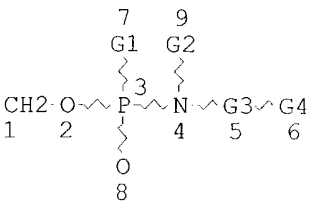



```
VAR G1=O/N
REP G3=(1-5) C
VAR G4=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L5           652 SEA FILE=REGISTRY SSS FUL L3
L6                STR
```




```
VAR G1=O/N
```

```
REP G3=(4-5) C
VAR G4=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L7             3 SEA FILE=REGISTRY SUB=L5 SSS FUL L6
L8             5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L10              STR
```




```
VAR G1=O/N
VAR G2=ME/ET/I-PR/N-PR/I-BU/N-BU/T-BU/S-BU
REP G3=(1-5) CH2
VAR G4=O/S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L11           56 SEA FILE=REGISTRY SUB=L5 SSS FUL L10
L12           54 SEA FILE=REGISTRY ABB=ON  PLU=ON  L11 NOT L7
L13           34 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12
L14           34 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 NOT L8


=>
=>

=> d ibib abs hitrn l14 1-34

L14  ANSWER 1 OF 34  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2001:131159  HCAPLUS
DOCUMENT NUMBER:          134:165481
TITLE:                    Phosphoroamidates, phosphorodiamidates, and phosphates
                          as lubricating oil lubricity and corrosion inhibitor
                          additives
INVENTOR(S):              Nakagawa, Shoji; Kobabyashi, Yuichiro; Togashi,
                          Hiroyasu; Hagihara, Toshiya; Taira, Koji
PATENT ASSIGNEE(S):       Kao Corporation, Japan
SOURCE:                   U.S., 14 pp., Cont.-in-part of PCT 9724419.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6190574	B1	20010220	US 1998-106137	19980629
WO 9724419	A1	19970710	WO 1996-JP3868	19961226

W: CN, JP, KR, US
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: JP 1995-353545 A 19951229
WO 1996-JP3868 A2 19961226
OTHER SOURCE(S): MARPAT 134:165481

AB A lubricating oil additive (e.g., a lubricity additive and corrosion inhibitor) consists of a first phosphorous-contg. component contg. a P-N bond and a second phosphorous-contg. component is a phosphate ester. The first phosphorous compd. is selected from bis- and tetrakis(2-hydroxyethyl) phosphoroamidic acid esters and phosphorodiamidic acid esters, of general structures [R3O(R1O)p][R4O(R2O)q](R5)P(:O) and [R3O(R1O)p](R5)2P(:O), in which R1 and R2 = C2-4-alkylene; p and q = 0-30; R3 and R4 = C1-30-alkyl, C3-30-alkyl, C2-30-alkenyl, C3-30-branched alkenyl, C6-30-aryl; C7-30-aralkyl, C1-30-haloalkyl, and C6-30-haloaryl; and R5 = -N(CH2CH2OH)2; with the proviso that when p = 0, R3 is not H, and when q = 0, R4 is not H. The second phosphorous compd. is of general structure (R6O)(R7O)(R8)P(:O), in which R6, R7, and R8 are C6-18-aryl, C1-18-alkyl, C3-18-branched alkyl, C2-18-alkenyl, and C3-18-branched alkenyl. The phosphorous-contg. components are present at a 0.001-5.0:0.1-5.0 wt. parts ratio of the first component to the second component, based on 100 wt. parts of a base lubricating oil. The base oils can be hydrocarbon-based or synthetic, esp. consisting of esters, cyclic ketals, cyclic acetals, polyethers, polyalkylene glycols, and carbonates. In addn., the lubricating oil additives are useful in hydrofluorocarbon-based refrigerants.

IT **193554-02-8**, Phosphoramidic acid, (2-hydroxyethyl)methyl-, bis(2-ethylhexyl) ester
RL: MOA (Modifier or additive use); USES (Uses)
(additives contg.; phosphoroamidates, phosphorodiamidates, and phosphates as lubricating oil lubricity and corrosion inhibitor additives)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:701222 HCAPLUS
DOCUMENT NUMBER: 134:36663
TITLE: Activation Mechanisms of Nucleoside Phosphoramidate Prodrugs
AUTHOR(S): Meyers, Caren L. Freel; Borch, Richard F.
CORPORATE SOURCE: Department of Chemistry, University of Rochester, Rochester, NY, 14642, USA
SOURCE: Journal of Medicinal Chemistry (2000), 43(22), 4319-4327
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of thymidine and tetrahydrofurfuryl phosphoramidates bearing haloethyl or piperidyl substituents was synthesized and used to investigate the activation mechanisms of nucleoside phosphoramidate prodrugs. Structure assignments for the tetrahydrofurfuryl reaction products were confirmed by comparison to authentic samples. Structural assignments for thymidine phosphoramidate reaction products were made by analogy to the tetrahydrofurfuryl products. Generation of the phosphoramidate anion leads to cyclization and subsequent nucleophilic attack at carbon and phosphorus of the resulting aziridinium ion intermediate to give the obsd. products. Nucleophilic attack by water at carbon and phosphorus occurs without selectivity, supporting a mechanism

of action of haloethylamine nucleoside prodrugs involving intracellular release of the nucleotide. Activation of the benzotriazolyl piperidyl phosphoramidates is followed by P-N bond hydrolysis; this reaction is subject to specific acid catalysis and to nucleophilic catalysis by 1-hydroxybenzotriazole. These results suggest that the mechanism of action of the piperidyl nucleoside phosphoramidates involves the intracellular release of the active nucleotide following P-N bond cleavage, presumably by the action of an endogenous phosphoramidase.

IT **312719-48-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of thymidine and tetrahydrofurfuryl phosphoramidates to investigate activation mechanisms of nucleoside phosphoramidate prodrugs)

IT **312719-56-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of thymidine and tetrahydrofurfuryl phosphoramidates to investigate activation mechanisms of nucleoside phosphoramidate prodrugs)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:564882 HCAPLUS
DOCUMENT NUMBER: 127:164255
TITLE: Lubricating oil composition
INVENTOR(S): Nakagawa, Shoji; Kobayashi, Yuichiro; Togashi, Hiroyasu; Hagihara, Toshiya; Taira, Koji
PATENT ASSIGNEE(S): Kao Corporation, Japan; Nakagawa, Shoji; Kobayashi, Yuichiro; Togashi, Hiroyasu; Hagihara, Toshiya; Taira, Koji
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9724419	A1	19970710	WO 1996-JP3868	19961226
W: CN, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6190574	B1	20010220	US 1998-106137	19980629

PRIORITY APPLN. INFO.: JP 1995-353545 A 19951229
WO 1996-JP3868 A2 19961226

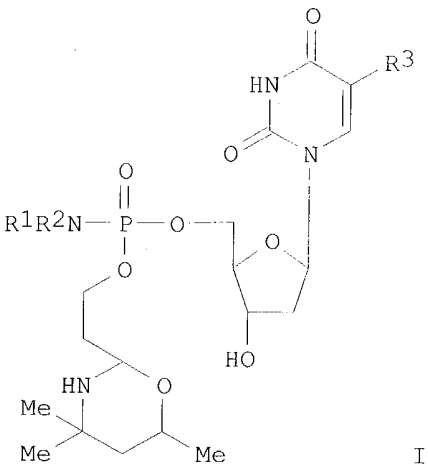
OTHER SOURCE(S): MARPAT 127:164255

AB The invention relates to a lubricating oil compn. characterized by contg. a phosphorus compd. having two or more hydroxyl groups and a P-N linkage in the mol.; a compn. for refrigerator working fluids comprising the above compn. and hydrofluorocarbon; and a lubricating oil additive for polar oils contg. the above phosphorus compd. as an active ingredient. The above compn. is excellent in lubricity and compatibility with hydrofluorocarbons and does not cause corrosion of metals even when it comprises a highly polar base oil, thus making it possible to provide a compn. for refrigerator working fluids.

IT **193554-02-8**
RL: MOA (Modifier or additive use); USES (Uses)
(antifriction-antiwear additive; lubricating oil compns. for refrigerators contg.)

L14 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:665403 HCAPLUS

DOCUMENT NUMBER: 123:257195
TITLE: Synthesis and Biological Evaluation of 5-Fluoro-2'-deoxyuridine Phosphoramidate Analogs
AUTHOR(S): Fries, Kristin M.; Joswig, Carolyn; Borch, Richard F.
CORPORATE SOURCE: Department of Chemistry, University of Rochester, Rochester, NY, 14642, USA
SOURCE: Journal of Medicinal Chemistry (1995), 38(14), 2672-80
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB A series of alkylating phosphoramidate analogs, e.g. I [R1 = Me, CH2CH2Br, R2 = CH2CH2Br, R3 = H, Me; R1R2 = CH2CH2XCH2CH2, R3 = F, X = O (II), CH2(III)], of 5-fluoro-2'-deoxyuridine has been prepd. and their growth inhibitory activity evaluated against murine L1210 leukemia and B16 melanoma cells in vitro. These compds. were designed to undergo intracellular release of the phosphoramidate anions, which it was hoped would function as irreversible inhibitors of thymidylate synthase. The expectation was that binding of the nucleoside moiety would be followed by alkylation of the enzyme via the phosphoramidate. The chloride, bromide, iodide, and tosylate analogs were highly potent inhibitors of L1210 cell proliferation, with increased inhibition obsd. at both higher drug concns. and longer exposure times. Addn. of thymidine completely reversed the inhibition for all compds., suggesting that these compds. are acting via inhibition of thymidylate synthase. Although the nonalkylating morpholine analog II was ca. 50-fold less potent than the methyl(chloroethyl)amino compd., the piperidine analog III was only 2-fold less potent, confirming that nitrogen basicity may be as important as the presence of an alkylating group. Addn. of thymidine reversed the growth inhibition of the morpholine and piperidine analogs, suggesting that these compds. may also undergo intracellular conversion to 5-fluoro-2'-deoxyuridine 5'monophosphate. The thymidine and deoxyuridine derivs., e.g. I (R1 = Me, CH2CH2Br, R2 = CH2CH2Br, R3 = H, Me), showed minimal growth inhibition in the L1210 assay. The alkylating analogs showed modest cytotoxicity against B16 melanoma cells, and the potency of the analogs was more dependent upon the alkylating moiety than on the 5-substituent.

IT **150756-44-8P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(synthesis and antitumor activity of fluorodeoxyuridine phosphoramidate analogs)

IT **150756-42-6P 150756-43-7P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and antitumor activity of fluorodeoxyuridine phosphoramidate analogs)

L14 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1993:626350 HCAPLUS

DOCUMENT NUMBER: 119:226350

TITLE: Preparation of phosphoramidate analogs of 5-fluoro-2o-deoxyuridine

INVENTOR(S): Borch, Richard F.; Fries, Kristin M.

PATENT ASSIGNEE(S): University of Rochester, USA

SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

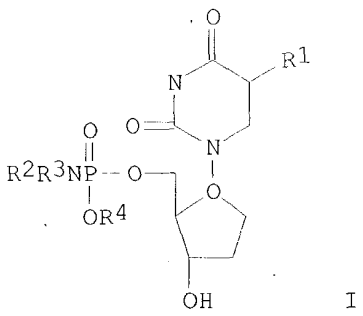
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9306120	A1	19930401	WO 1992-US7792	19920915
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
US 5233031	A	19930803	US 1991-763936	19910923
EP 605582	A1	19940713	EP 1992-920628	19920915
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
JP 06511003	T2	19941208	JP 1992-506170	19920915
CA 2119351	C	20020730	CA 1992-2119351	19920915

PRIORITY APPLN. INFO.: US 1991-763936 A 19910923
WO 1992-US7792 W 19920915

OTHER SOURCE(S): MARPAT 119:226350

GI



I

AB Title compds. I [R1 = H, F, C1-4 alkyl; R2 = XCH2CH2 wherein X = Br, Cl, I, 4-MeC6H4SO2; R3 = C1-4 alkyl, groups for R2; R2R3N = 5-6-membered heterocyclyl aliph. or aliph. interrupted by a ring O or a 2nd ring N; R4 = H, cation, (4,4,6-trimethyltetrahydro-1,3-oxazin-3-yl)ethyl(Q)] and a salt thereof, useful as neoplasm inhibitors, are prepd. Bu4N+ F- in THF was added at 0.degree. to 3'-O-tert-butyldimethylsilyl-5-fluoro-2'-deoxy-5'-uridyl-2-Q-N-Me,-N-(2-bromoethyl)phosphoramidate (prepn. given) to give I (R1 = F, R2 = BrCH2CH2, R3 = Me, R4 = Q] (II). In test against B16 melanoma cells the LC99 of II was 100 .mu.M and IG50 against L210 leukemia cells after 48 h was 2.5 nM.

IT **150756-42-6P 150756-43-7P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of neoplasm inhibitors)

IT **150756-44-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, neoplasm inhibitor)

L14 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1992:194031 HCAPLUS
DOCUMENT NUMBER: 116:194031
TITLE: Amidophosphate glycolic phospholipids
AUTHOR(S): Rasadkina, E. N.; Predvoditelev, D. A.; Nifant'ev, E. E.
CORPORATE SOURCE: V. I. Lenin Moscow State Pedagog Univ., Moscow, USSR
SOURCE: Bioorganicheskaya Khimiya (1992), 18(2), 302-4
CODEN: BIKHD7; ISSN: 0132-3423
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Previously unknown glycolic phospholipids contg. a phosphoamide bond in the hydrophobic part of the mol., e.g. C17H35C(O)O(CH2)nN(R)P(O)(OH)OMe (R = Me, n =2; R =H, n =3), were synthesized via oxidative phosphorylation of RNH(CH2)nOH followed by O-acylation and monodemethylation.

IT **140687-70-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification by stearoyl chloride)

IT **140687-72-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and monodemethylation of)

L14 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1986:88688 HCAPLUS
DOCUMENT NUMBER: 104:88688
TITLE: Hydroboration of unsaturated amines. IX. Role of a phosphorus(IV)-nitrogen bond on the complexation of nitrogen-boron during the reaction of hydroboration of N-allylic amines
AUTHOR(S): Benmaarouf-Khallaayoun, Zahra; Baboulene, Michel; Speziale, Vincent; Lattes, Armand
CORPORATE SOURCE: Lab. Interact. Mol. React. Chim. Photochim., Univ. Paul Sabatier, Toulouse, 31062, Fr.
SOURCE: Journal of Organometallic Chemistry (1985), 289(2-3), 309-17
CODEN: JORCAI; ISSN: 0022-328X
DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 104:88688

AB The amino group of N-allylic amines which is protected by a phosphorylated grouping , e.g., (EtO)2P(O)NMeCH2CH:CH2, hinders nitrogen-boron coordination and allows normal addn. of the boron hydrides. The hydroboration-oxidn. reaction of phosphorylated N-allylic amines, by appropriate hydroboration agents, e.g., 9-borabicyclo[3.3.1]nonane, lead to N-phosphorylated 3-aminopropanols, e.g., (EtO)2P(O)NMe(CH2)3OH, with very good yields.

IT **98056-36-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:522947 HCAPLUS
DOCUMENT NUMBER: 103:122947
TITLE: Hydroboration of unsaturated amines. VIII. A convenient synthesis of 3-aminopropan-1-ol

AUTHOR(S): Benmaarouf-Khallaayoun, Z.; Baboulene, M.; Speziale, V.; Lattes, A.
CORPORATE SOURCE: Lab. Interact. Mol. React. Chim. Photochim., Univ. Paul Sabatier, Toulouse, 31062, Fr.
SOURCE: Synthetic Communications (1985), 15(3), 233-41
CODEN: SYNCAV; ISSN: 0039-7911
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:122947

AB Phosphorylated aminopropanols R2P(Z)NR1CH2CH2CH2OH (R = EtO, Me2N; Z = O, S; R1 = Me, PhCH2) were prepd. from the resp. R2P(Z)NHR1. Thus, (EtO)2P(O)NHMe was allylated, and the (EtO)2P(O)NMeCH2CH:CH2 obtained was treated with 4-borabicyclo[3.3.1]nonane and then with NaOH and H2O2 to give (EtO)2P(O)NMeCH2CH2CH2OH.

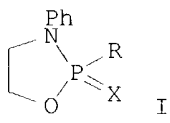
IT **98056-36-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:551196 HCAPLUS
DOCUMENT NUMBER: 101:151196
TITLE: Electroorganic chemistry. 81. Anodic oxidation of sulfonamides and amidophosphates
AUTHOR(S): Shono, Tatsuya; Matsumura, Yoshihiro; Tsubata, Kenji; Uchida, Kenshi; Kanazawa, Takenobu; Tsuda, Kunio
CORPORATE SOURCE: Fac. Eng., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Journal of Organic Chemistry (1984), 49(20), 3711-16
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Peak oxidn. potentials of sulfonamides and amidophosphates were measured in MeCN and compared with the corresponding amides and carbamates. The order of ease of oxidn. was amides > carbamates > amidophosphates > sulfonamides. Furthermore, reaction of silyl enol ethers or P(OMe)3 with anodically .alpha.-methoxylated sulfonamides or amidophosphates showed them to be useful starting materials in org. synthesis. E.g., optically active L-tryptophan was synthesized from .alpha.-methoxylated N-(p-tosyl)-L-proline ester.

IT **53279-96-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acid-catalyzed reaction of, with silyl enol ether)

L14 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1983:612605 HCAPLUS
DOCUMENT NUMBER: 99:212605
TITLE: Reaction of sulfonyl chlorides and chlorophosphates with 1,3,2-diheterophospholanes
AUTHOR(S): Pudovik, M. A.; Ostanina, I. L.; Pudovik, A. N.
CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1983), (8), 1859-63
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 99:212605
GI



I

AB Reaction of PhSO2Cl with linear and cyclic amino derivs. of P(III) proceeds with oxidn. of the P. Thus, reaction of I (R = Et2N, X = -) (II) with PhSO2Cl gave I (R = Et2N, X = O). Under similar reactions, (EtO)2P(O)Cl cleaves the P-N bond. Thus, II and (EtO)2P(O)Cl gave I (R = Cl, X = -).

IT **87910-04-1P**
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and cyclization of)

IT **87910-05-2P**
RL: PREP (Preparation)
(formation and thermolysis of)

IT **87910-02-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Me iodide)

L14 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1980:514701 HCAPLUS
DOCUMENT NUMBER: 93:114701
TITLE: Halophenoxyalkoxyphosphonates and -thiophosphonates
INVENTOR(S): Eiseman, Fred S.
PATENT ASSIGNEE(S): GAF Corp., USA
SOURCE: Ger. Offen., 21 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2928855	A1	19800313	DE 1979-2928855	19790717
US 4231781	A	19801104	US 1978-938376	19780831
JP 55035082	A2	19800311	JP 1979-109807	19790830
GB 2032435	A	19800508	GB 1979-30294	19790831

PRIORITY APPLN. INFO.: US 1978-938376 19780831

AB Approx. 15 2,4-dichlorophenoxyethyl phosphates and thiophosphates and their amine salts were prepd. Thus, 310 g 2,4-Cl2C6H3OCH2CH2OH, 2 g hypophosphorous acid, and 255 g 115% polythiophosphoric acid gave 45% 1.3:1 2,4-Cl2C6H3OCH2CH2OP(S)(OH)2 (I) and (2,4-Cl2C6H3OCH2CH2O)2P(S)(OH). I (200 g) and 260 g HN(CH2CH2OH)2 gave 40% I.HN(CH2CH2OH)2. At 0.2-20 g/ha, the title compds. controlled Stellano media and White Goosefoot.

IT **74651-44-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:121002 HCAPLUS
DOCUMENT NUMBER: 90:121002
TITLE: N-(Hydroxyalkyl)phosphoramidates
INVENTOR(S): Koike, Wataro; Sasaki, Kenichi; Takada, Ikuo; Matsui, Sadayoshi
PATENT ASSIGNEE(S): Ihara Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 53124221 A2 19781030 JP 1977-39729 19770407
JP 60035352 B4 19850814
PRIORITY APPLN. INFO.: JP 1977-39729 19770407
AB Seventeen N-(hydroxyalkyl)phosphoramidates RO(R1O)PONR2ZOH I (R, R1 = Me, Et, octyl, ClCH2CHClCH2, o-ClC6H4, etc.; NR2ZOH = NHCH2CH2OH, NBuCH2CH2OH, N(CH2CH2OH)2, N(CH2CHMeOH)2, NH(CH2)3OH, etc.), useful as flame retardants (no data), were prepd. in good yields by treating RO(R1O)POX (X = Cl, Br, iodine) with alkanolamines HNR2ZOH and Na2CO3 or K2CO3 in a H2O-insol. org. solvent under substantially anhyd. conditions. Thus, 1.0 mol diethanolamine and 1.1 mol Na2CO3 in 2.0 mol CHCl3 was treated with 1.0 mol (Me2CHO)2POCl at .ltoreq.40.degree. over 40 min, stirred 1 h at 40-5.degree., H2O added, and the org. layer evapd. to give 92.8% (98.61% pure based on OH no.) I (R = R1 = Me2CH, NR2ZOH = N(CH2CH2OH)2), vs. 75.2% with 2.6 mol amine in MeCN (no Na2CO3), 69.7% with Et3N instead of Na2CO3, or 63.4% with 20% aq. Na2CO3. The control had less purity.
IT **69173-52-0P 69173-53-1P 69173-54-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:121001 HCAPLUS
DOCUMENT NUMBER: 90:121001
TITLE: N-Hydroxyalkylphosphoramidates
INVENTOR(S): Koike, Kazutaro; Sasaki, Kenichi; Takada, Ikuo; Matsui, Sadayoshi
PATENT ASSIGNEE(S): Ihara Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 53130623	A2	19781114	JP 1977-45420	19770420
JP 59010678	B4	19840310		

PRIORITY APPLN. INFO.: JP 1977-45420 19770420
AB Seventeen (RO)(R1O)P(O)NR2ZOH (R, R1 = alkyl, haloalkyl, allyl, aralkyl, aryl; Z = alkylene; R2 = H, alkyl, hydroxyalkyl) were prepd. by reaction of (RO)(R1O)P(O)X (X = halo) with HNR2ZOH in hydrophobic solvents in the presence of tertiary amines and removal of the tertiary amine HX salts with aq. alkali hydroxides. Thus, 200.6 g (Me2CHO)2POCl was added to a mixt. of 105.1 g (HOCH2CH2)2NH and 101.2 g Et3N in CHCl3 over 35 min at 25.degree., 48% aq. NaOH added over 15 min at .ltoreq.20.degree., the mixt. stirred with H2O for 15 min, and the org. layer concd. to give 97.2% (Me2CHO)2P(O)N(CH2CH2OH)2.
IT **69173-52-0P 69173-53-1P 69173-54-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:71749 HCAPLUS
DOCUMENT NUMBER: 90:71749
TITLE: N-Hydroxyalkylphosphoroamidates
INVENTOR(S): Koike, Kazutaro; Sasaki, Kenichi; Takada, Ikuo; Matsui, Sadayoshi
PATENT ASSIGNEE(S): Ihara Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 53112817	A2	19781002	JP 1977-26333	19770310
JP 58026760	B4	19830604		

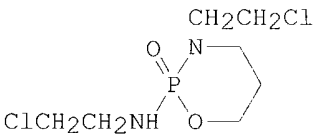
PRIORITY APPLN. INFO.: JP 1977-26333 19770310

AB Sixteen title compds. (RO)(R1O)P(O)NR2ZOH (I; R, R1 = alkyl, haloalkyl, H2C:CHCH2, aralkyl, aryl; R2 = H, alkyl, ZOH; Z = alkylene) were prepd. by reaction of (RO)(R1O)POH with HNR2ZOH in CCl4. I are fire-resisting agents for polyurethane foam. Thus, 105.1 g (HOCH2CH2)2NH was added to a mixt. of 166.2 g (Me2CHO)2POH and 153.8 g CCl4 in CHCl3 over 15 min below 40.degree., 127.2 g Na2CO3 added, and the whole kept 8 h at 40-45.degree. to give 89.1% (Me2CHO)2P(O)N(CH2CH2OH)2.

IT **69173-54-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for fire-resistant agent for polyurethane foam)

IT **69173-52-0P 69173-53-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for fire-resistant agents for polyurethane foam)

L14 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:130656 HCAPLUS
DOCUMENT NUMBER: 88:130656
TITLE: Studies on cyclophosphamide metabolites and their related compounds. VI. Studies on the urinary metabolites of isophosphamide and its activated species in rabbits
AUTHOR(S): Takamizawa, Akira; Iwata, Tsuyoshi; Matsumoto, Saichi
CORPORATE SOURCE: Shionogi Res. Lab., Shionogi and Co., Ltd., Osaka, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1977), 25(11), 2900-9
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



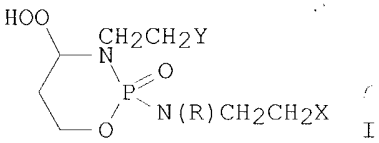
I

AB Investigation of the urinary metabolites of isophosphamide (I) [3778-73-2] and of 4-hydroxyisophosphamide [64858-43-1] and 4-hydroperoxyisophosphamide [64858-36-2] and their epimers in rabbits revealed that their metabolic behaviors were different from each other and also from those of cyclophosphamide. Administration of I to rabbits resulted in urinary excretion of carboxyisophosphamide [53459-52-2] and two N-dechloroethylated metabolites besides a considerable amt. of unchanged I, while 4-hydroxyisophosphamide was metabolized principally into carboxyisophosphamide. In the case of 4-hydroperoxyisophosphamide, carboxyisophosphamide was excreted as a major metabolite, but a considerable amt. of a new metabolite which may be produced from 4-ketoisophosphamide via a hitherto unknown pathway was also excreted as well as a small amt. of 4-ketoisophosphamide [42436-20-4]. Phosphorus configuration of the C4-oxidized isophosphamides was found to have no significant effect upon their metab. The results of these studies may account for the great differences in antitumor activities between I and

its pre-activated derivs. and also between I and cyclophosphamide.

IT **66046-63-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and ozonolysis of)

L14 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:68938 HCAPLUS
DOCUMENT NUMBER: 88:68938
TITLE: Studies on cyclophosphamide metabolites and their related compounds. 8. Synthesis and antitumor activity of preactivated isophosphamide analogs bearing modified alkylating functionalities
AUTHOR(S): Takamizawa, Akira; Matsumoto, Saichi; Iwata, Tsuyoshi; Makino, Itsuo; Yamaguchi, Kenji; Uchida, Naomi; Kasai, Hisashi; Shiratori, Osamu; Takase, Shiro
CORPORATE SOURCE: Shionogi Res. Lab., Shionogi and Co., Ltd., Osaka, Japan
SOURCE: Journal of Medicinal Chemistry (1978), 21(2), 208-14
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



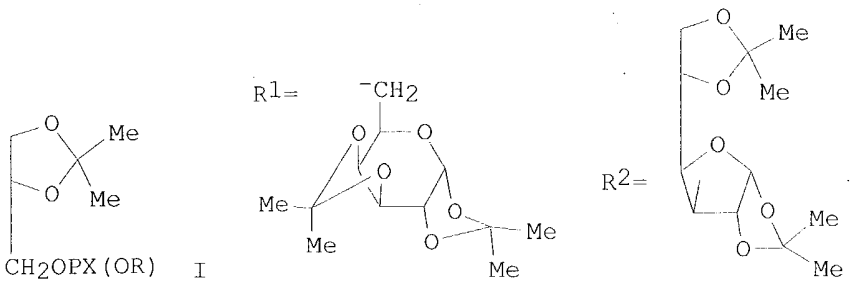
I

AB 4-Hydroperoxyisophosphamide derivs. (I) were prepd. by ozonolytic cyclization of the corresponding N,N'-substituted 3-butenyl phosphorodiamidates, and their in vitro cytotoxicity and in vivo antileukemic activity against L 1210 cells in mice were compared with those of cyclophosphamide (III) [50-18-0] and isophosphamide (IV) [3778-73-2]. Among I, compds. with x.noteq.y showed higher antileukemic activity and only slightly greater cytotoxicity than compds. with X=Y. NSC 280122D (I X = Cl, Y = OSO2Me, R = Me) [60052-96-2] administered orally was the most effective antileukemic compd. tested in this series.

IT **60052-93-9P 65174-49-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and ozonolytic cyclization of)

IT **65174-58-5P 65174-59-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with alkylsulfonyl chlorides)

L14 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:90156 HCAPLUS
DOCUMENT NUMBER: 86:90156
TITLE: New approach to the synthesis of glycophospholipids
AUTHOR(S): Nifant'ev, E. E.; Predvoditelev, D. A.; Shin, V. A.
CORPORATE SOURCE: Mosk. Pedagog. Inst. im. Lenina, Moscow, USSR
SOURCE: Zhurnal Obshchei Khimii (1976), 46(10), 2369-75
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



AB Glyceroamidophosphites I (R = R1, R2, X = NEt2) (II) were obtained in 81 and 86% yields by substitution of the corresponding diamidophosphite of I (X = OR = NEt2) with R1OH and R2OH. Oxidn. of II gave 68 and 86% yields of the corresponding phosphates. I (R = R1, X = NEt2) treated with PhCH2OH gave 92% I (R = R1, X = PhCH2O) which was converted to I (X = ONa) by NaI. Addnl. obtained was 44% I (R = R1, X = MeNHCH2CH2O).

IT **61773-74-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:464751 HCAPLUS
DOCUMENT NUMBER: 85:64751
TITLE: Alkyl and haloalkyl N,N'-dialkyl-N-methylolphosphorodiamidates
INVENTOR(S): Burke, Patrick M.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: U.S., 11 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3957923	A	19760518	US 1975-550619	19750218
US 3897522	A	19750729	US 1973-373144	19730625
PRIORITY APPLN. INFO.:			US 1972-261812	19720612
			US 1973-373144	19730625

AB The title materials were prepd. as fireproofing agents for cellulosic textiles. Thus, 2-chloroethyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate (I) [**57057-70-2**] was prepd. by treating 2-chloroethyl N,N'-dimethylphosphorodiamidate [57057-76-8] with HCHO [50-00-0] and was padded on cotton flannelette samples to add-ons of 10.7-17.3%. All samples passed the initial char length test, but samples of 2.7 and 11.5% I add-on failed after 40 home washes. Samples with 15.2 and 17.3% I add-on retained 73 and 59%, resp., of I after 40 home washes and passed the char length test.

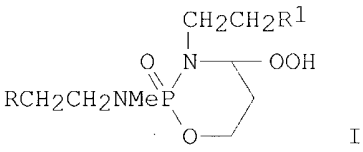
IT **57057-70-2 57057-71-3 57057-72-4**
57057-74-6 59969-70-9 59969-71-0
RL: USES (Uses)
(fireproofing agents, for cotton textile)

L14 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:463098 HCAPLUS
DOCUMENT NUMBER: 85:63098

TITLE: 4-Hydroperoxytetrahydro-2H-1,3,2-oxazaphosphorin 2-oxide derivatives
INVENTOR(S): Takamizawa, Akira; Iwata, Tsuoyoshi
PATENT ASSIGNEE(S): Shionogi and Co., Ltd., Japan
SOURCE: Ger. Offen., 14 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2552135	A1	19760526	DE 1975-2552135	19751120
JP 51059886	A2	19760525	JP 1974-133257	19741120
CA 1051914	A1	19790403	CA 1975-239381	19751107
SE 7513007	A	19760521	SE 1975-13007	19751119
FR 2291763	A1	19760618	FR 1975-35387	19751119
CH 602777	A	19780731	CH 1975-15008	19751119
NL 7513590	A	19760524	NL 1975-13590	19751120
AU 7586816	A1	19770526	AU 1975-86816	19751120
AU 500813	B2	19790531		

PRIORITY APPLN. INFO.: JP 1974-133257 19741120
GI



I

AB The title compds. I (R = MeSO3, R1 = Cl; R = Cl, R1 = MeSO3), useful as immunosuppressants and neoplasm inhibitors, were prepd. by oxidn. of (RCH2CH2NMe)P(O)(NHCH2CH2R1)OCH2CH2CH:CH2 with ozone in the presence of 30% H2O2 2 days at 0.degree..
IT **60052-93-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, by ozone in presence of hydrogen peroxide)

L14 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:607535 HCAPLUS
DOCUMENT NUMBER: 83:207535
TITLE: Alkyl and haloalkyl N,N-dialkyl-N-methylolphosphorodiamidates
INVENTOR(S): Burke, Patrick M.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: U.S., 11 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3897522	A	19750729	US 1973-373144	19730625
US 3957923	A	19760518	US 1975-550619	19750218

PRIORITY APPLN. INFO.: US 1972-261812 19720612
US 1973-373144 19730625
AB P-contg., storage-stable compns. for providing cellulosic textiles with

flame retardant finishes durable to laundering and bleaching are prepd. from N,N'-dialkyl-N-methylolphosphorodiamidates. For example, 2-chloroethyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate (I) [**57057-70-2**] was prepd. from a reaction between 2 moles. 37% aq. HCHO [50-00-0] and 1 mole N,N-dimethylphosphorodiamidate [57057-76-8] at 10.degree., pH 7-10. Three aq. baths were prepd. each contg., in 100 parts soln., trimethylolmelamine [1017-56-7] 8, NH4Cl (curing agent) 2 and I 10,15 and 20 parts, resp. Cotton twill fabrics were padded to 100% pickup with each of the 3 baths, dried 10 min at 100.degree., and cured 4 min at 165.degree.. Fabrics finished in baths contg. 10, 15, and 20% I had add-on 9.6, 14.0, and 19.2; durability after 10 home launderings 73, 78, and 75%; initial char length 4.25, 4.88, and 3.75; char length after 10 launderings 6.63, 6.75, and 4.25 mm; initial limiting oxygen index 0.260, 0.285, and 0.300; limiting oxygen index after 10 launderings 0.257, 0.274, and 0.284, resp.

IT **57057-70-2 57057-71-3 57057-72-4**
57057-74-6
RL: USES (Uses)
(fire proofing agents, for cotton textiles)

L14 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:504662 HCAPLUS
DOCUMENT NUMBER: 81:104662
TITLE: New method for preparing phosphorylcholine amide derivatives
AUTHOR(S): Zamarlik, Henri; Nguyen Thanh Thuong; Chabrier, Pierre
CORPORATE SOURCE: Cent. Marcel Delepine Chim. Org. Phosphore, Orleans, Fr.
SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1974), 278(23), 1385-8
CODEN: CHDCAQ; ISSN: 0567-6541
DOCUMENT TYPE: Journal
LANGUAGE: French

AB The phosphorylcholine analog, Me3N+(CH2)2OP(O)-(O-)N+Me3 Cl- (I), reacted with amines to afford the following Me3N+(CH2)2OP(O)(O-)NRR1 (II, R and R1 given): Me Me; Ph, H; PhCH2CHMe, H. Amino alcs. and I gave the following II (R and R1 given): H, (CH2)2OH; Me, (CH2)2OH; Me, CHMeCHPhOH; H, CHMe(CH2)3CMe2OH.

IT **53214-54-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:477163 HCAPLUS
DOCUMENT NUMBER: 81:77163
TITLE: Reactivity of phosphoramides. III. Demonstration of the assistance in alkylation. Preparation of diazaphospholanes
AUTHOR(S): Savignac, P.; Lavielle, G.; Dreux, M.
CORPORATE SOURCE: Lab. Synth. Org., Univ. Paris VI, Paris, Fr.
SOURCE: Journal of Organometallic Chemistry (1974), 72(3), 361-8
CODEN: JORCAI; ISSN: 0022-328X
DOCUMENT TYPE: Journal
LANGUAGE: French

AB Li phosphoramides, e.g., (EtO)2P(O)NLiMe, are fairly unreactive with respect to alkylating agents. (EtO)2P(O)NLi(CH2)2NLiR (R = Me, Et, Me2CH, Me3C) undergoes either bisalkylation or cyclization according to exptl. conditions; a cyclic intermediate is postulated.

IT **53279-96-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:84657 HCAPLUS
DOCUMENT NUMBER: 80:84657
TITLE: Dialkyl N-substituted phosphoramidate-containing flame retardants
INVENTOR(S): Burke, Patrick M.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co.
SOURCE: U.S., 13 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3767736	A	19731023	US 1970-80388	19701013

PRIORITY APPLN. INFO.: US 1970-80388 19701013

AB Dialkyl alkoxy-or hydroxymethylphosphormidates, (R1O)2P(:O)NHCH2 OR2 (I), where R1 = alkyl, R2 = alkyl or H, were prepd. for water-sol. fireproofing agents, which could be made laundering resistant, for cotton textiles. In conjunction with trimethylol melamine [1017-56-7], II retained almost 94% of its fireproofing ability on cotton flannelette after 20 machine washings. Thus, dimethyl (hydroxymethyl)phosphoroamidate (I, R1 = Me, R2 = H) [40716-58-3], prepd. from dimethyl phosphoramidate [2697-42-9] and formaldehyde [50-00-0] was superior to com. fireproofing agents diallyl (hydroxymethyl)phosporoamidate and bis(2,3-dibromopropyl) (hydroxymethyl)phosphoroamidate for fireproofing cotton twill.

IT **22237-54-3**
RL: USES (Uses)
(fireproofing by, of cellulosic textiles)

L14 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1972:101554 HCAPLUS
DOCUMENT NUMBER: 76:101554
TITLE: N-(Dialkylphosphono)-N-alkyltaurinates for dry cleaning clothing
INVENTOR(S): Fearing, Ralph B.
PATENT ASSIGNEE(S): Stauffer Chemical Co.
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3626034	A	19711207	US 1967-686747	19671129

PRIORITY APPLN. INFO.: US 1967-686747 19671129

AB The title compds. RO(R1O)P(O)NR2CH2CH2SO3Y (I) (Y = K, Na, or NH4) are used as a detergent at 0.1-10.0 wt. % in usual solvent systems for dry cleaning. Thus Na N-(decyloctylphosphono)-N-methyltaurinate (II) [**34376-47-1**] was prepd. quant. by addn. of octyl decyl phosphorochloridate and PhMe to a 65% soln. of Na N-methyltaurinate. Also prepd. were I (R = R1 = 2-ethylhexyl, R2 = H, Y = K) and I (R = R1 = hexyl, R2 = H, Y = K). I, tested in dry cleaning solvent systems, show superior solvent relative humidity control properties, insol. soil removal and redeposition properties, and water-sol. soil removal properties.

IT **34376-47-1**
RL: USES (Uses)
(detergents, for dry cleaning of clothing)

L14 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1970:99936 HCAPLUS
DOCUMENT NUMBER: 72:99936
TITLE: Condensation of N-alkyl-N-methylolamides of diethyl hydrogen phosphate with carboxylic acids
AUTHOR(S): Fedorova, O. N.; Alimov, P. I.
CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1969), (12), 2825-7
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Heating 4.5 g (EtO)2P(O)NPrCH2OH with 4.8 g AcOH 8 hr at 60.degree. gave 45% (EtO)2P(O)NPrCH2OAc, b0.5 87-9.degree. n20D 1.4355 d20 1.0895; similarly were prepd. (EtO)2P(O)NRCH2O2CR1 (I) (R and R1 shown): Et, Me, b0.5 86-8.degree., 1.4320, 1.1054; Et, Pr, b0.5 100-2.degree., 1.4310, 1.062; Et, iso-Pr, b0.5 96-8.degree., 1.4310, 1.0637; Pr, iso-Pr, b0.5 98-100.degree., 1.4308, 1.0454. Heating 4.22 g (EtO)2P(O)NEtCH2OH with 8.2 g Ac2O and a trace of concd. HCl 9 hr at 55.degree. gave 56% (EtO)2P(O)NEtCH2OAc, b1 91-2.5.degree., 1.4320, 1.108; similarly were prepd. I: Me, Me, b0.5 81-3.degree., 1.4320, 1.1322; Pr, Me, b0.5 89-90.degree. 1.4340, 1.0889; C5H11, Me, b0.5 103.5-5.degree., 1.4370, 1.0592.
IT **17636-68-9P 26843-18-5P 26843-19-6P**
26843-21-0P 26843-22-1P 26843-23-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:437865 HCAPLUS
DOCUMENT NUMBER: 71:37865
TITLE: Comparative toxicity of phosphorylated aminoethanethiol derivatives in mammals, insects, and acarians
AUTHOR(S): Cheymol, Jean; Chabrier, Pierre; Nguyen Thanh Thuong; Savignac, Philippe; Thizy, Andre; Demozay, Daniel; Pillon, Daniel
CORPORATE SOURCE: Fac. Med., Paris, Fr.
SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie D: Sciences Naturelles (1969), 268(16), 2150-3
CODEN: CHDDAT; ISSN: 0567-655X
DOCUMENT TYPE: Journal
LANGUAGE: French
AB RR1P(:X)S(CH2)2NR2P(:O)(OR3)2 where R and R1 are alkyl, alkoxyaryl, aryloxy, or NH2, R2 is H, Me, or Et, R3 is alkyl or aryl, and X is O or S, were tested for their efficiency as acaricides and their toxicity to mice. Compds. with R = R1 = MeO and X = S were less active acaricides and less toxic to mice than those with X = O; the reverse was true for the compds. R = R1 = EtO. The compds. R = R1 = Me were more toxic to mice and more specific in their insecticidal properties than their Et and Pr analogs. The compds. R1 = MeO, R2 = H, and R = MeO had specific marked acaricide activity and were also quite toxic to mice; R1 = morpholino were less toxic to mice and insects; and R2 = Me or Et were only slightly toxic to both mice and insects.
IT **21988-68-1**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(as acaricides)

L14 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:412484 HCAPLUS
DOCUMENT NUMBER: 71:12484

TITLE: Condensation of diethyl N-alkyl-N-methylolphosphoramidates with amides of unsaturated acids
AUTHOR(S): Fedorova, O. N.; Alimov, P. I.
CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1969), (3), 718-19
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Heating an equimolar mixt. of (EtO)2P(O)NRCH2OH and H2NCOCR':CH2 in C6H6 with catalytic amount of concd. HCl 4 hrs. at 50.degree. gave the (EtO)2P(O)NRCH2NHCOCR':CH2 (R and R' shown): Me, H, b1 134-5.degree., n20D 1.4600, d20 1.1328; Me, Me, b0.5 117-19.degree., 1.4590, 1.1122; Et, H, b0.5 131-3.degree., 1.4660, 1.1133; Et, Me, b0.5 122-3.degree.,-,-, (m.48-51.degree.); Pr, H, b1 143-6.degree., 1.4650, 1.0973; Pr, Me, b0.5 133-5.degree., 1.4620, 1.083; Bu, H, b0.05 126-8.degree., 1.4620, 1.0750. Mixing 10 g. (EtO)2P(O)NHMe with 6 ml. 32% CH2O and keeping 2 days gave on distn. 62% (EtO)2P(O)NMeCH2OH, b1.4 148-50.degree., 1.4410, 1.1409. Similarly prepd. were the analogs used above (R shown): Et, b0.5 143-5.degree., 1.4431, 1.1138, 46%; Bu, b0.5 159-61.degree., 1.4440, 1.0613, 50%. The yields of condensations with acrylamides were 30-50%.

IT **16626-92-9P 18016-09-6P 22237-54-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:77274 HCAPLUS
DOCUMENT NUMBER: 70:77274
TITLE: Condensation of N-alkyl-N-methylolamides of diethylphosphoric acid with carboxylic acid amides
AUTHOR(S): Fedorova, O. N.; Alimov, P. I.
CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1968), (9), 2133-4
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Heating equimolar mixt. of (EtO)2P(O)NRCH2OH and carboxamide or urethane in C6H6 with a drop of concd. HCl catalyst 4 hrs. at 50.degree. gave (EtO)2P(O)NRCH2NHR' (R and R' shown, resp.) in 40-63% yields: Et, CHO, b0.5 128-9.degree., n20D 1.4490, d20 1.1329; Pr, CHO, b0.5 136-8.degree., 1.4500, 1.1210; Me, Ac, b1 130-1.degree., 1.4500, 1.1356; Et, Ac, b0.5 126-8.degree., 1.4448, 1.1229; Pr, Ac, b0.5 133-4.degree., m. 43.degree.; Bu, Ac, b0.5 138-40.degree., 1.4520, 1.0761; amyl, Ac, b0.5 138-9.degree., 1.4530, 1.0661; Et, COCH2Cl, m. 56-7.degree., b0.5 144-5.degree.; Pr, COCH2Cl, m. 54-5.degree.; Me, CO2Et, b0.5 118-20.degree., 1.4450, 1.1395; Et, CO2Et, b0.5 126-8.degree., 1.4448, 1.1229; Pr, CO2Et, b0.5 133-5.degree., 1.4450, 1.1045; Bu, CO2Et, b0.5 142-4.degree., 1.4455, 1.0847; amyl, CO2Et, b0.5 148-50.degree., 1.4470, 1.0682. (EtO)2PO(NMeCH2OH), b0.5 144-6.degree., 1.4405, 1.1380; (EtO)2PO(NAmCH2OH) (Am = amyl), b0.5 166-70.degree., 1.4455, 1.0405, were prepd. by previously described method (See F. and A., 1967 and 1966).

IT **22237-54-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:508125 HCAPLUS
DOCUMENT NUMBER: 67:108125
TITLE: Some reactions of N-alkyl-N-methylol amides of O,O-diethylphosphoric acid
AUTHOR(S): Fedorova, O. N.; Alimov, P. I.

CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1967), (6), 1348-50
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Heating 0.3 mole paraformaldehyde with 0.2 mole (EtO)2P(O)NHR in a sealed tube 12 hrs. at 100.degree. gave (EtO)2P(O)NRCH2OH (R shown): Pr, b1 158-60.degree., n20D 1.4510, d20 1.0898; Bu, b0.5 161-2.degree., 1.450, 1.0599. Heating (EtO)2P(O)NEtCH2OH (I) in MeOH in a sealed tube 12 hrs. at 50.degree. gave 48% (EtO)2P(O)NEtCH2OMe, b0.5 65-6.degree., 1.4330, 1.0580; similarly were prepd. (EtO)2P(O)NPrCH2OMe, b0.5 78-9.degree., 1.4350, 1.0618, and its N-butyl analog, b0.5 83-4.degree., 1.4370, 1.0250. Similar reaction with RSH at 50.degree. gave: (EtO)2P(O)NEtCH2SPr, b0.5 99-101.degree., 1.4680, 1.0539; (EtO)2P(O)NPrCH2SPr, b0.5 114-15.degree., 1.4680, 1.0414; (EtO)2P(O)NPrCH2SBu, b0.5 118-20.degree., 1.4680, 1.0286; (EtO)2P(O)NBuCH2SCHMe2, b0.5 108-10.degree., 1.4645, 1.0207. I heated with AcCl in Et2O-Et3N after mixing at 0.degree. gave (EtO)2P(O)NEtCH2OAc, b0.5 88-90.degree., 1.4310, 1.1051; similarly prepd. was (EtO)2P(O)NBuCH2OAc, b0.5 103-5.degree., 1.4505, 1.0832.

IT **17636-68-9P 17637-03-5P 17637-04-6P**
17637-05-7P 17637-06-8P 17637-07-9P
17637-08-0P 17648-41-8P 17648-42-9P
17648-43-0P 18016-09-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:463664 HCAPLUS
DOCUMENT NUMBER: 67:63664
TITLE: Condensation of dialkyl phosphates N-methylolamides with mercaptans
AUTHOR(S): Alimov, P. I.; Fedorova, O. N.
CORPORATE SOURCE: A.E. Arbuzov Inst., Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1966), (8), 1461-3
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Keeping 32.13 g. (EtO)2PONH2 with 22 ml. 32.2% aq. HCHO 2 days gave after evapn. in vacuo an undistillable viscous mass, sol. in H2O and many org. solvents; this was identified as (EtO)2P(O)NHCH2OH (Ia), n20D 1.4480, d20 1.2100. Similarly were obtained the analogous esters: di-iso-Pr, 1.4470, 1.1217; di-Pr(I) 1.4510, 1.1290; and di-iso-Bu 1.4510, 1.0540. Heating 9.05 g. (EtO)2PONHEt with 1.5 g. paraformaldehyde in a sealed tube 12 hrs. at 100.degree. gave 42.7% (EtO)2P(O)NEtCH2OH, b1 147-50.degree., 1.4442, 1.1163. I (5 g.) and 1.8 g. iso-PrSH heated 6 hrs. in C6H6 at 50.degree. in a sealed tube gave 44.4% (PrO]2P(O)NHCH2SCHMe2, b0.5 124-5.degree., 1.4640, 1.0629. Similarly were prepd. 40-55%: (EtO)2P(O)NHCH2SCHMe2, b1 130-2.degree., 1.4620, 1.1220; (EtO)2P(O)NHCH2SBu, b0.5 139-41.degree., 1.4760, 1.0885; (iso-PrO)2P(O)NHCH2SCHMe2, b0.5 130-2.degree., 1.4710, 1.0468; (iso-BuO)2P(O)NHCH2SPr, b0.5 150-2.degree., 1.4730, 1.0348; (iso-BuO)2P(O)NHCH2SCHMe2, b0.5 149-51.degree., 1.4680, 1.0296. Ia and AcCl in Et3N-Me2CO gave after mixing at -5.degree. and warming to room temp. 94% acetoxy deriv. 1.4470, 1.1920, which decompd. on attempted distn. Similarly was prepd. the acetoxy deriv. of I, 1.449, 1.1193.

IT **16626-92-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L14 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1966:472964 HCAPLUS
DOCUMENT NUMBER: 65:72964

ORIGINAL REFERENCE NO.: 65:13555a-b
TITLE: Phosphoric ester amides and amino esters of unsaturated acids
INVENTOR(S): Schnalke, Karl E.; Sueling, Carlhans; Honig, Hans L.
PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1222056		19660804	DE	19650424

AB Amides are prepd. by the reaction: (R1O)(R2O)POCl + HCl + NHR3(CH2)xCO2CR4:CHR5 (I) .fwdarw. (R1O)(R2O)PONR3(CH2)xCO2-CR4:CHR5 (II). E.g., a soln. of 83 g. of .beta.-aminoethyl methacrylate HCl salt and 87 g. (EtO)2POCl in 600 ml. CHCl3 is cooled to 0.degree. and 53 g. NaOH cautiously added at <5.degree.. After 2 hrs. stirring, the salts are filtered off and I is obtained as a yellow oil. The same amide is prepd. from: N-methylaminoethyl methacrylate, .gamma.-aminopropyl methacrylate, and .beta.-aminoethyl crotonate.

IT **13511-40-5**, Methacrylic acid, ester with di-Et (2-hydroxyethyl)methylphosphoramidate
(prepn. of)

L14 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1960:74288 HCAPLUS
DOCUMENT NUMBER: 54:74288
ORIGINAL REFERENCE NO.: 54:14124d-h
TITLE: N-Substituted amidophosphoric acid dialkylesters
INVENTOR(S): Debo, Arno
PATENT ASSIGNEE(S): Chemische Fabrik Joh. A. Benckiser G. m. b. H.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1033200		19580703	DE	
US 2995596		1961	US	

AB The title compds. are prepd. by addn. of a halophosphoric acid dialkyl ester to the stirred suspension or soln. of the amine in water in the presence of inorg. bases, preferably soda. Thus, 34.5 g. di-Et chlorophosphate (I) was added slowly to a stirred and cooled soln. of 36.2 g. dicyclohexylamine in 130 cc. 20% NaCO3 soln., the mixt. evapd. in vacuo, and the residue extd. with EtOH to obtain after evapn. of the solvent 99% phosphoric acid di-Et ester dicyclohexylamide, m. 140.degree. (cyclohexane). To obtain phosphoric acid di-Et ester dibutylamide, b3 115.degree., the liquid layer, obtained after addn. of 34.5 g. I to 25.8 g. Bu2NH in 130 cc. 20% soda soln., was sepd. and distd. By the same procedure were prepd.: (PrO)2PONHAc, b2 106.degree., n20D 1.4199; (PrO)2PON(CH2CO2Me)2, b1 162.degree., n20D 1.4419; (iso-PrO)2PONHC6H4Me, m. 84-5.degree.; (BuO)2PONHBu, b1 145.degree., n20D 1.4382; (BuO)PONBu2, b1 122.degree., n20D 1.4406; (BuO)2PONBu-iso2, b1 111.degree., n20D 1.4384; (BuO)2PON(CH2CH2)2O, b2 143.degree., n20D 1.4522; (iso-BuO)2PONEt2, b1 104.degree., n20D 1.4243; (iso-BuO)2PON(C4H7)2, b1.5 112.degree., n20D 1.4342; (iso-BuO)2PONBu2, b2 139-40.degree., n20D 1.4382; (iso-BuO)2PONBu-iso2, b3 127.degree., n20D 1.4381; (PrO)2PONBuCH2CH2OH, b2 150-60.degree., n20D 1.4353; (PrO)2PONHPh, m. 55.degree.; (PrO)2PONHC6H11, m. 53.degree.. Phosphoric acid di-Et ester ethylamide was made by adding 34.5 g. I to 9 g. EtNH2 in 130 cc. 20% soda

soln. and acidifying slightly with HCl to ppt. the amide. Similarly was made (PrO)2PONH(CH2)3NMe2, b2 136.degree., n20D 1.4442.

IT **69173-54-2**, Phosphoramidic acid, butyl(2-hydroxyethyl)-, dipropyl ester
(prepn. of)

L14 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1960:33833 HCAPLUS
DOCUMENT NUMBER: 54:33833
ORIGINAL REFERENCE NO.: 54:6520f-i,6521a-c
TITLE: Synthesis and properties of some mixed N-substituted phosphoramidates
AUTHOR(S): Alimov, P. I.; Fedorova, O. N.; Cheplanova, I. V.
SOURCE: Izvest. Kazan. Filiala Akad. Nauk S.S.S.R., Ser. Khim. Nauk (1957), (No. 4), 49-56
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The title compds. were prepd. by the reaction of Na derivs. of di-Et N-alkyl (or phenyl) phosphoramidates, (EtO)2P(O)NRH (I), with an appropriate org. halide. Thus, 18.1 g. of I (R = Et) (Ia), b2 105-6.degree., was added during 40 min. to 2.8 g. Na in 100 ml. petr. ether (b. 70-120.degree.), heated 2 hrs. at 60-70.degree., and sepd. from excess Na. To this soln. was added 8.04 g. ClCH2OMe and the mixt. stirred 2 hrs. at 60-70.degree., sepd. from NaCl, and fractionated to give 48.8% (EtO)2P(O)NEtR (II) (R = CH2OMe), b1 80.0-80.5.degree., n20D 1.4260, d20 1.0599, MR 54.39. The Na deriv. from 18.1 g. Ia, and 2.3 g. Na in 100 ml. petr. ether, stirred 3 hrs. at 80-90.degree. with 12.7 g. PhCH2Cl, gave 44.2% II (R = PhCH2), b0.5 109.degree., n20D 1.4871, d20 1.0745, MR 72.55. Other compds. of formula II similarly prepd. were (R, b.p./mm., % yield, n20D, d20, and MR listed): Me, 56-8.degree./1, 48.5, 1.4210, 1.0239, 48.29; Pr, 97-8.degree./5, 41.7, 1.4260, 0.9963, 57.37; CH2:CHCH2, 78.degree./1, 61.8, 1.4349, 1.0136, 56.88; Bu, 93-4.degree./2, 51, 1.4286, 0.9891, 61.72; MeOCO, 86-7.degree./1, 67.8, 1.4330, 1.1318, 54.88; Bz, 125-8.degree./1, -, 1.5055, 1.1452, - (no analysis reported); EtOCOCH2, 106-7.degree./1, 23.7, 1.4340, 1.0903, 63.76; MeOCOCH2CH2, 124-5.degree./1, 26.9, 1.4390, 1.1023, 63.71; MeOCOCHMeCH2, 121-2.degree./2, 21.2, 1.4375, 1.0811, 68.16; EtOCOCHMeCH2, 130-1.degree./2, 25.4, 1.4365, 1.0644, 72.54. A soln. prepd. from 22.9 g. I(R = Ph) (IIa) and 2.3 g. Na in 100 ml. dry C6H6, treated with 14.2 g. MeI, heated 3 hrs. at 80-90.degree., and fractionated, gave 52.8% (EtO)2P(O)NPhMe, b1 109-11.degree., n20D 1.5020, d20, 1.1216, MR 63.95. IIa and CH2:CHCH2Br gave 60% (EtO)2P(O)NPh(CH2CH:CH2), b1 120-2.degree., n30D 1.5030, d20 1.0992, MR 72.36. Other compds. of the formula (RO)2P(O)NR'CH2CO2Et, similarly prepd. were (R, R', b.p./mm., % yield, n20D, d20, and MR given): Et, Me, 112-14.degree./3, 34, 1.4295, 1.1048, 59.10; iso-Pr, Me, 107-8.degree./1, 52.9, 1.4266, 1.059, 68.06; iso-Bu, Et, 134-5.degree./1.5, 52.0, 1.4320, 1.0208, 82.07. Compds. of formula I contg. an amino acid moiety were prepd. by the reaction of (EtO)2P(O)Cl with an amino acid (R, b.p./mm., % yield, n20D, d20, and MR given): EtOCOCH2 (III), 135.5.degree./1, 74, 1.4390, 1.1495, 54.69; EtOCOCHEt, 129-30.degree./1, 60, 1.4360, 1.1003, 63.45. The analogous reaction of (EtO)2P(S)Cl gave 66% (EtO)2P(S)NHCH2CO2Et, b1 116.degree., n20D 1.4720, d20 1.1451, MR 62.35. A subcutaneous dose of 5 mg./kg. III was lethal to white mice; the di-substituted compds. were much less toxic.

IT **17648-42-9**, Phosphoramidic acid, ethyl(methoxymethyl)-, diethyl ester
(prepn. of)

L14 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1958:1600 HCAPLUS
DOCUMENT NUMBER: 52:1600
ORIGINAL REFERENCE NO.: 52:244a-i
TITLE: Esters and ester amides of phosphoric,

thiopyrophosphoric, and dithiotriphosphoric acids and some of their properties
AUTHOR(S): Alimov, P. I.; Zvereva, M. A.; Fedorova, O. N.
CORPORATE SOURCE: A. E. Arbuzov Chem. Inst., Kazan
SOURCE: Khim. i Primenenie Fosfororgan. Soedinenii, Akad. Nauk S.S.S.R., Trudy 1-oi Konferents. (1957), Volume Date 1955 164-75
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Reaction of (EtO)2P(S)OH (prepd. by addn. of S to (EtO)2POH in the presence of pyridine, Et3N, or PhNEt2) with appropriate chlorophosphates in the presence of tertiary bases yielded the following compds., which were tested against the grain weevil (the concn. of the ester and the % kill in 7 days given): (EtO)2P(O)OP(S)(OEt)2, 0.005%, 100; (iso-PrO)2P(O)OP(S)(OEt)2, 0.05, 75; (BuO)2P(O)OP(S)(OEt)2, 0.05, 100; EtO(Me2N)P(O)OP(S)(OEt)2, 0.05, 100; EtO(Et2N)P(O)OP(S)(OEt)2, 0.05, 75; (Me2N)2P(O)OP(S)(OEt)2, 0.1, 60; (Et2N)2P(O)OP(S)(OEt)2, -, -; (EtO)2P(S)OP(S)(OEt)2, 0.05, 100; EtO(Me2N)P(S)OP(S)(OEt)2, 0.05, 70; (Et2N)2P(S)OP(S)(OEt)2, 0.1, 45. The compds. with ester and amide groups on the same P atom also had systemic insecticidal activity. Reaction of ROPCl2 with 2 moles (EtO)2P(S)ONa gave the following group of esters in 20-40% yields; ROP[SP(O)(OEt)2]2, which also has insecticidal action; the compd. with R = Me was most effective and had white mouse lethal dose of 40 mg./kg.; others include K = Et, Pr, iso-Pr, and Bu. Reaction of (RO)2POCl with Na deriv. of (RO)2P(O)NHR gave 40-60% yields of the following group (insecticidal activity shown as above): (EtO)2P(O)NMeP(O)(OEt)2, 0.05, 90; (EtO)2P(O)NMeP(O)(NMe2)2, 0.1, 85; (EtO)2P(O)NMeP(OEt)2, 0.2, 90; (EtO)2P(O)NMeP(O)(OEt)NMe2, 0.2, 80; (EtO)2P(O)NMeP(S)(OEt)2, 0.1, 25; (EtO)2P(O)NEtP(O)(OEt)2, 0.1, 80, and 0.2, 100; (EtO)2P(O)NEtP(O)(NMe2)2, 0.2, 100; (EtO)2P(O)NBuP(O)(OEt)2, 0.05, 100; (EtO)2P(O)NPhP(O)(OEt)2, 0.1, 60; (Me2N)2P(O)NMeP(O)(NMe2)2, -, -; the entire group showed some toxicity to higher animals. The following compds., prepd, similarly, showed some insecticidal activity, and their toxicology was reported elsewhere in this collection C.A. 51, 18310c, as all are anticholinesterasic agents: (PrO)2P(O)NMeP(O)(OPr)2, b2 159-60.degree., n20D 1.4365, d20 1.0867; [(iso-PrO)2PO]2NMe, b2 128-9.degree., 1.4292, 1.0686; [(PrO)2PO]2NEt, b1 160-1.degree., 1.4385, 1.0746; [(iso-PrO)2PO]2NEt, b1 129-30.degree., 1.4288, 1.0612; [(iso-BuO)2PO]2NMe, b2 162-3.degree., 1.4375, 1.0335; [(BuO)2PO]2NEt, b1 173-4.degree., 1.4411, 1.0398; [(iso-BuO)2PO]2NEt, b1 157-8.degree., 1.4370, 1.0264; [Me2N(EtO)PO]2NEt, b2 140-2.degree., 1.4560, 1.1214; (iso-PrO2P(O)NMeP(S)(OCHMe2)2, b1 126-7.5.degree., 1.4535, 1.0786; (PrO)2P(O)NEtP(S)(OPr)2, b1 142-4.degree., 1.4570, 1.0744; (EtO)2P(S)NMeP(S)(OEt)2, b1.5 134-5.degree., 1.4940, 1.1662; (EtO)2P(S)NEtP(S)(OEt)2, b1 133-4.degree., 1.4913, 1.1476. Similarly were prepd.: (EtO)2P(O)NMeP(OEt)2, b1 104-6.degree., 1.4435, 1.1045; (iso-PrO)2P(O)NMeP(OCHMe2)2, b1 107-9.degree., 1.4330, 1.0179; (PrO)2P(O)NEtP(OPr)2, b1 126-7.degree., 1.4405, 1.0213. These readily added S and reacted with alkyl halides forming the corresponding phosphonates: (EtO)2P(O)NMeP(O)EtOEt, b1 132-3.degree., 1.4430, 1.1394; (EtO)2P(O)NMeP(O)(OEt)CH2CO2Et, b1 161-3.degree., 1.4490, 1.1878; (EtO)2P(O)NMeP(O)(OEt)OCH:CCl2. Reaction of (EtO)2P(O)NMeNa (I) with esters of halogenated acids gave the series of physiologically active esters: (EtO)2P(O)NMeCH2CO2Et, b3 112-14.degree., 1.4295, 1.1048; (EtO)2P(O)NEtCH2CO2Et, b1 106-7.degree., 1.4340, 1.0903; (EtO)2P(O)NEtCH2CH2CO2Me, b1 124-5.degree., 1.4390, 1.1023; (EtO)2P(O)NEtCH2CHMeCO2Me, b2 121-2.degree., 1.4375, 1.0811; (EtO)2P(O)NEtCH2CHMeCO2Et, b2 130-1.degree., 1.4365, 1.0644; (iso-PrO)2P(O)NMeCH2CO2Et, b1 107-8.degree., 1.4266, 1.0591; (iso-BuO)2P(O)NEtCH2CO2Et, b1.5 134-5.degree., 1.4320, 1.0208; (EtO)2P(O)NHCH2CO2Et, b1 135.5.degree., 1.4390, 1.1495; (EtO)2P(S)NHCH2CO2Et, b1 116.degree., 1.4720, 1.1451; (EtO)2P(O)NHCHEtCO2Et, b1 129-30.degree., 1.4360, 1.1003; the last 3

substances were prepd. from the esters of amino acids and the chlorophosphate. Alkylation of I gave: (EtO)2P(O)NMeEt, b1 56-8.degree., 1.4210, 1.0239; (EtO)2P(O)NEtPr, b5 97-8.degree., 1.4260, 0.9963; (EtO)2P(O)NEtBu, b2 93-4.degree., 1.4286, 0.9891; (EtO)2P(O)NMePh, b1 109.degree., 1.5020, 1.1216; (EtO)2P(O)NEtCH2OMe, b1 80-80.5.degree., 1.4260, 1.0599; (EtO)2P(O)NEtCH2CH:CH2, b1 78.degree., 1.4349, 1.0136; (EtO)2P(O)NEtCH2Ph, b1 109.degree., 1.4871, 1.0745.

IT **17648-42-9**, Phosphoramidic acid, ethyl(methoxymethyl)-, diethyl ester
(prepn. of)

=>
=>

=> fil caold
FILE 'CAOLD' ENTERED AT 11:54:01 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=>
=>

=> s l12
L15 5 L12

=>
=>

=> d all l15 1-5

L15 ANSWER 1 OF 5 CAOLD COPYRIGHT 2003 ACS on STN
AN CA65:13555b CAOLD
TI amide oxidn. inhibitor for lubricants
AU Trites, Robert T.; Froehlich, P. A.
PA Emery Industries, Inc.
DT Patent

PATENT NO.	KIND	DATE
US 3260671		1966

IT 13511-39-2 **13511-40-5** 13511-41-6 13511-73-4

L15 ANSWER 2 OF 5 CAOLD COPYRIGHT 2003 ACS on STN
AN CA54:14124e CAOLD
TI N-substituted amidophosphoric acid dialkyl esters
AU Debo, Arno
DT Patent
TI amidophosphoric acid dialkylesters (N-substituted)

PA Chemische Fabrik Joh. A. Benckiser G.m.b.H.
DT Patent

PATENT NO.	KIND	DATE
US 2995596		1961

PI DE 1033200
IT 1946-09-4 5756-07-0 7264-96-2 33980-21-1 53796-00-2 53796-01-3
67828-17-5 **69173-54-2** 100454-53-3 101098-08-2 101440-38-4
101440-39-5 107476-02-8 108371-77-3 109218-29-3

L15 ANSWER 3 OF 5 CAOLD COPYRIGHT 2003 ACS on STN
AN CA54:6520g CAOLD
TI synthesis and properties of some mixed N-substituted phosphoramidates
AU Alimov, P. I.; Fedorova, O. N.; Cheplanova, I. V.
IT 1946-09-4 7477-04-5 13989-90-7 15942-13-9 **17648-42-9**
24616-19-1 52670-78-7 53279-98-4 61278-88-4 61278-89-5 81439-84-1
86148-16-5 92594-65-5 98951-99-6 109043-36-9 109098-27-3 109342-41-8
109342-46-3 110422-88-3 110440-95-4 120232-60-2

L15 ANSWER 4 OF 5 CAOLD COPYRIGHT 2003 ACS on STN
AN CA52:18215d CAOLD
TI vinyl ethers of amidophosphate and amidophosphate esters and their polymers
AU Melamed, Sidney
PA Rohm & Haas Co.
DT Patent

PATENT NO.	KIND	DATE
US 2842527		1958

IT 13199-30-9 99178-11-7 100396-10-9 100708-24-5 100887-93-2 101432-95-5
101745-69-1 102656-20-2 102897-05-2 102944-80-9 103512-05-6 103566-91-2
108371-73-9 109599-74-8 111414-19-8 **114986-58-2**
118979-61-6 119015-12-2 119771-61-8 120582-70-9

L15 ANSWER 5 OF 5 CAOLD COPYRIGHT 2003 ACS on STN
AN CA52:244i CAOLD
TI organometallic and organometalloidal F compds. - (XIII) trifluoromethyl derivs. of Sb
AU Dale, J. W.; Emeleus, H. J.; Haszeldine, R. N.; Moss, J. H.
IT 420-74-6 432-05-3 650-53-3 650-56-6 661-46-1 733-57-3
754-14-3 758-46-3 1479-46-5 1512-12-5 2714-61-6
17648-42-9 52670-78-7 61278-89-5 61278-90-8 92594-65-5

=>
=>

=> fil reg
FILE 'REGISTRY' ENTERED AT 11:54:15 ON 04 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 OCT 2003 HIGHEST RN 596788-60-2
DICTIONARY FILE UPDATES: 1 OCT 2003 HIGHEST RN 596788-60-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

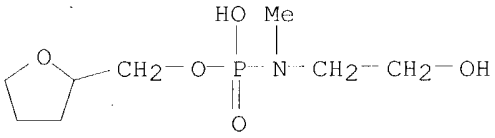
=>
=>

=> d ide can l12 tot

L12 ANSWER 1 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 312719-56-5 REGISTRY
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, mono[(tetrahydro-2-furanyl)methyl] ester, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
MF C8 H18 N O5 P . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS

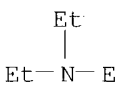
CM 1

CRN 312719-55-4
CMF C8 H18 N O5 P



CM 2

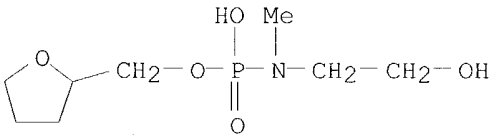
CRN 121-44-8
CMF C6 H15 N



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

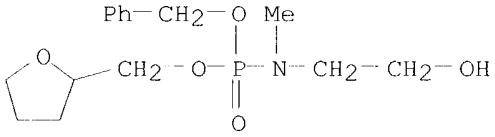
REFERENCE 1: 134:36663

L12 ANSWER 2 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 312719-55-4 REGISTRY
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, mono[(tetrahydro-2-furanyl)methyl] ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H18 N O5 P
CI COM
SR CA



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L12 ANSWER 3 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 312719-48-5 REGISTRY
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, phenylmethyl (tetrahydro-2-furanyl)methyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C15 H24 N O5 P
SR CA
LC STN Files: CA, CAPLUS

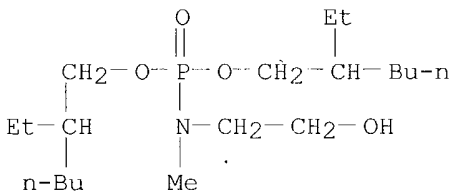


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:36663

L12 ANSWER 4 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 193554-02-8 REGISTRY
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, bis(2-ethylhexyl) ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C19 H42 N O4 P
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

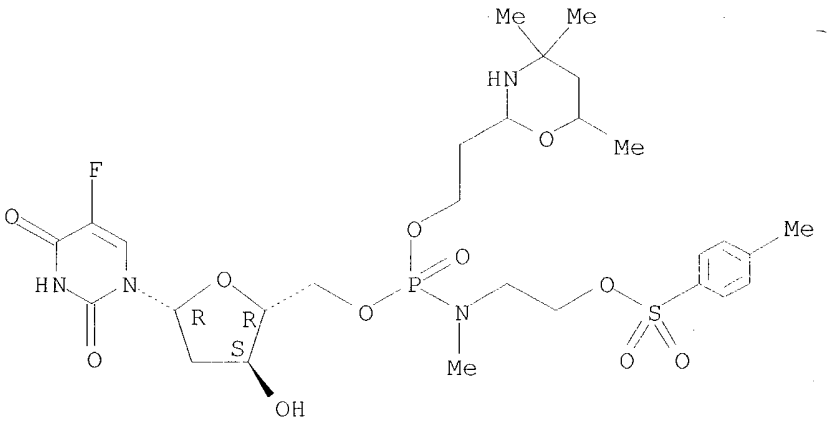
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:165481

REFERENCE 2: 127:164255

L12 ANSWER 5 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 150756-44-8 REGISTRY
CN Uridine, 2'-deoxy-5-fluoro-, 5'-[2-(tetrahydro-4,4,6-trimethyl-2H-1,3-oxazin-2-yl)ethyl methyl[2-[[(4-methylphenyl)sulfonyl]oxy]ethyl]phosphoramidate] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1,3-Oxazine, uridine deriv.
FS STEREOSEARCH
MF C28 H42 F N4 O11 P S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

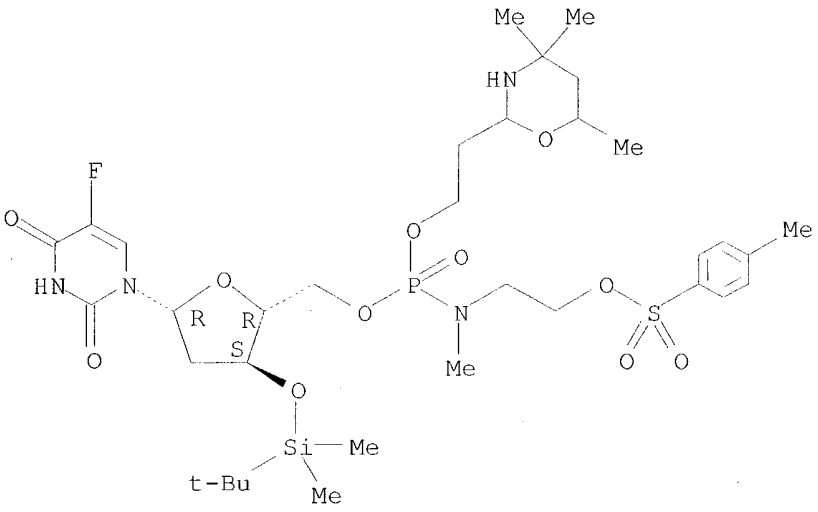
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 123:257195

REFERENCE 2: 119:226350

L12 ANSWER 6 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 150756-43-7 REGISTRY
CN Uridine, 2'-deoxy-3'-O-[(1,1-dimethylethyl)dimethylsilyl]-5-fluoro-, 5'-[2-(tetrahydro-4,4,6-trimethyl-2H-1,3-oxazin-2-yl)ethyl methyl[2-[[(4-methylphenyl)sulfonyl]oxy]ethyl]phosphoramidate] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-1,3-Oxazine, uridine deriv.
FS STEREOSEARCH
MF C34 H56 F N4 O11 P S Si
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

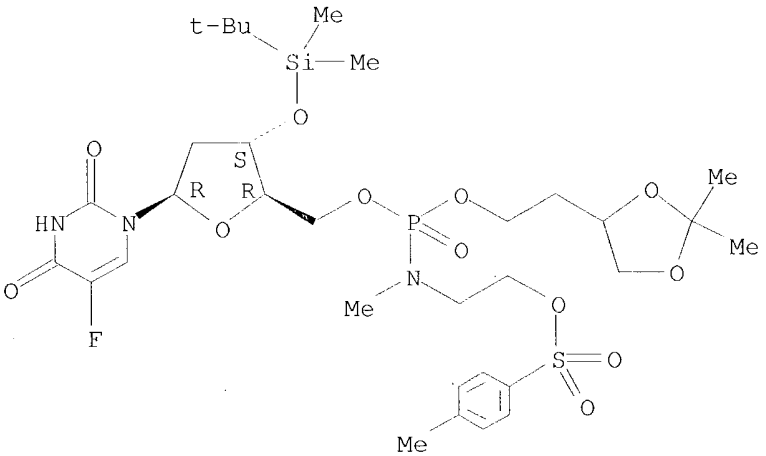
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 123:257195

REFERENCE 2: 119:226350

L12 ANSWER 7 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 150756-42-6 REGISTRY
CN Uridine, 2'-deoxy-3'-O-[(1,1-dimethylethyl)dimethylsilyl]-5-fluoro-, 5'-[2-(2,2-dimethyl-1,3-dioxolan-4-yl)ethyl methyl[2-[[(4-methylphenyl)sulfonyl]oxy]ethyl]phosphoramidate] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H51 F N3 O12 P S Si
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



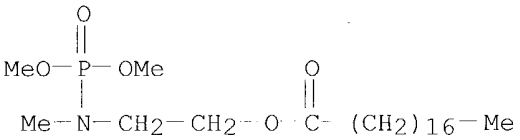
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 123:257195

REFERENCE 2: 119:226350

L12 ANSWER 8 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 140687-72-5 REGISTRY
CN Octadecanoic acid, 2-[(dimethoxyphosphinyl)methylamino]ethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C23 H48 N O5 P
SR CA
LC STN Files: CA, CAPLUS

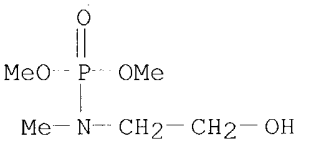


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:194031

L12 ANSWER 9 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 140687-70-3 REGISTRY
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, dimethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C5 H14 N O4 P
SR CA
LC STN Files: CA, CAPLUS



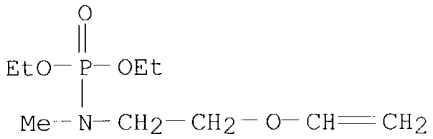
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:194031

L12 ANSWER 10 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 118979-61-6 REGISTRY
CN Phosphoramidic acid, methyl(2-vinyloxyethyl)-, diethyl ester (6CI) (CA INDEX NAME)

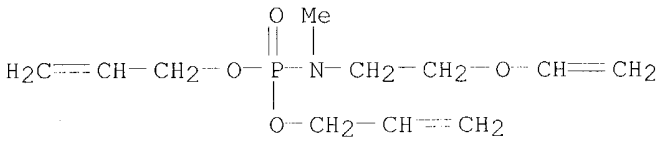
FS 3D CONCORD
MF C9 H20 N O4 P
SR CAOLD
LC STN Files: BEILSTEIN*, CAOLD
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

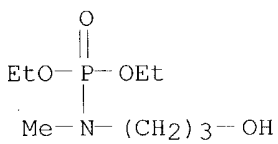
L12 ANSWER 11 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 114986-58-2 REGISTRY
CN Phosphoramidic acid, methyl(2-vinyloxyethyl)-, diallyl ester (6CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H20 N O4 P
SR CAOLD
LC STN Files: CAOLD



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L12 ANSWER 12 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 98056-36-1 REGISTRY
CN Phosphoramidic acid, (3-hydroxypropyl)methyl-, diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H20 N O4 P
SR CA
LC STN Files: CA, CAPLUS, CASREACT



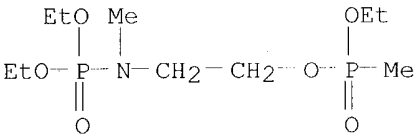
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 104:88688

REFERENCE 2: 103:122947

L12 ANSWER 13 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 87910-05-2 REGISTRY
CN Phosphoramidic acid, [2-[(ethoxymethylphosphinyl)oxy]ethyl]methyl-, diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H25 N O6 P2
LC STN Files: CA, CAPLUS, CASREACT

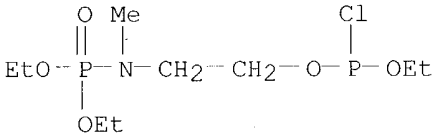


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 99:212605

L12 ANSWER 14 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 87910-04-1 REGISTRY
CN Phosphoramidic acid, [2-[(chloroethoxyphosphino)oxy]ethyl]methyl-, diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C9 H22 Cl N O5 P2
LC STN Files: CA, CAPLUS, CASREACT

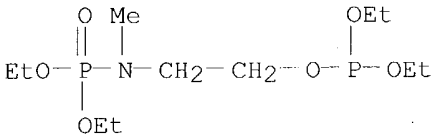


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 99:212605

L12 ANSWER 15 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 87910-02-9 REGISTRY
CN Phosphorous acid, 2-[(diethoxyphosphinyl)methylamino]ethyl diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H27 N O6 P2
LC STN Files: CA, CAPLUS, CASREACT

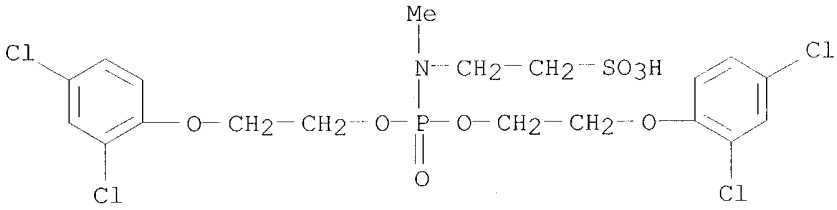


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 99:212605

L12 ANSWER 16 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 74651-44-8 REGISTRY
CN Ethanesulfonic acid, 2-[[bis[2-(2,4-dichlorophenoxy)ethoxy]phosphinyl]methylamino]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C19 H22 Cl4 N O8 P S
LC STN Files: CA, CAPLUS, USPATFULL

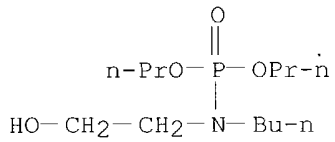


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 93:114701

L12 ANSWER 17 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 69173-54-2 REGISTRY
CN Phosphoramidic acid, butyl(2-hydroxyethyl)-, dipropyl ester (6CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C12 H28 N O4 P
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

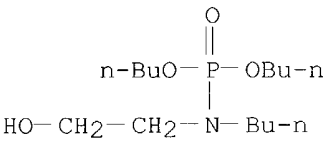
REFERENCE 1: 90:121002

REFERENCE 2: 90:121001

REFERENCE 3: 90:71749

REFERENCE 4: 54:74288

L12 ANSWER 18 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 69173-53-1 REGISTRY
CN Phosphoramidic acid, butyl(2-hydroxyethyl)-, dibutyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H32 N O4 P
LC STN Files: CA, CAPLUS



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

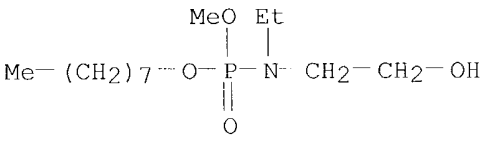
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 90:121002

REFERENCE 2: 90:121001

REFERENCE 3: 90:71749

L12 ANSWER 19 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 69173-52-0 REGISTRY
CN Phosphoramidic acid, ethyl(2-hydroxyethyl)-, methyl octyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C13 H30 N O4 P
LC STN Files: CA, CAPLUS



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

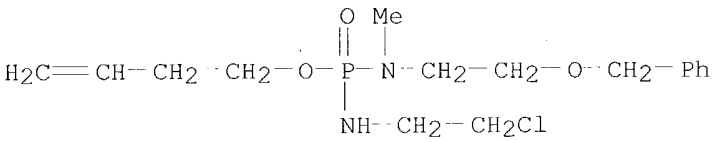
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 90:121002

REFERENCE 2: 90:121001

REFERENCE 3: 90:71749

L12 ANSWER 20 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 66046-63-7 REGISTRY
CN Phosphorodiamidic acid, N'-(2-chloroethyl)-N-methyl-N-[2-(phenylmethoxy)ethyl]-, 3-butenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C16 H26 Cl N2 O3 P
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

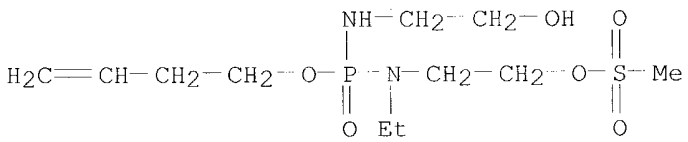


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 88:130656

L12 ANSWER 21 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 65174-59-6 REGISTRY
CN Phosphorodiamidic acid, N-ethyl-N'-(2-hydroxyethyl)-N-[2-[(methylsulfonyl)oxy]ethyl]-, 3-butenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H25 N2 O6 P S
LC STN Files: CA, CAPLUS, TOXCENTER

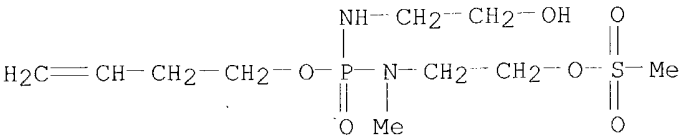


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 88:68938

L12 ANSWER 22 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 65174-58-5 REGISTRY
CN Phosphorodiamidic acid, N'-(2-hydroxyethyl)-N-methyl-N-[2-[(methylsulfonyl)oxy]ethyl]-, 3-butenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H23 N2 O6 P S
LC STN Files: CA, CAPLUS, TOXCENTER

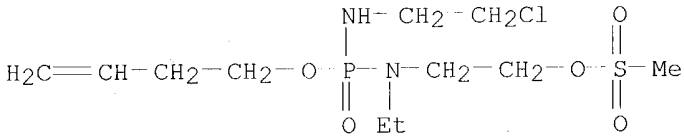


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 88:68938

L12 ANSWER 23 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 65174-49-4 REGISTRY
CN Phosphorodiamidic acid, N'-(2-chloroethyl)-N-ethyl-N-[2-[(methylsulfonyl)oxy]ethyl]-, 3-butenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H24 Cl N2 O5 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)



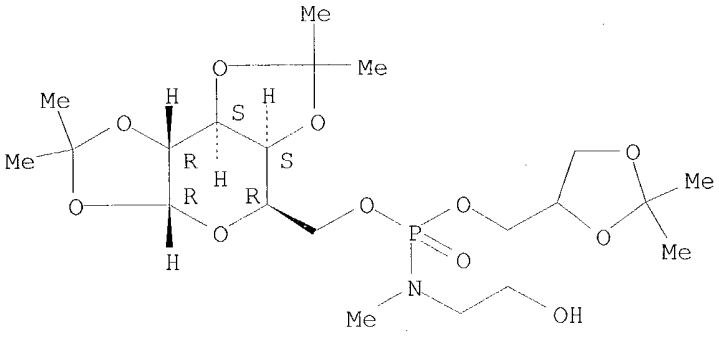
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 88:68938

L12 ANSWER 24 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 61773-74-8 REGISTRY
CN .alpha.-D-Galactopyranose, 1,2:3,4-bis-O-(1-methylethylidene)-, (2,2-dimethyl-1,3-dioxolan-4-yl)methyl (2-hydroxyethyl)methylphosphoramidate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H-Bis[1,3]dioxolo[4,5-b:4',5'-d]pyran, .alpha.-D-galactopyranose deriv.
FS STEREOSEARCH
MF C21 H38 N O11 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

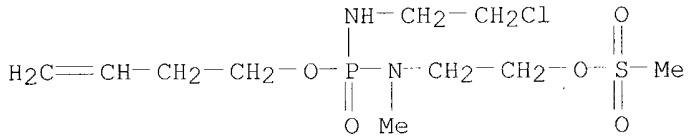


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 86:90156

L12 ANSWER 25 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 60052-93-9 REGISTRY
CN Phosphorodiamidic acid, N'-(2-chloroethyl)-N-methyl-N-[2-[(methylsulfonyl)oxy]ethyl]-, 3-butenyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H22 Cl N2 O5 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, TOXCENTER
(*File contains numerically searchable property data)



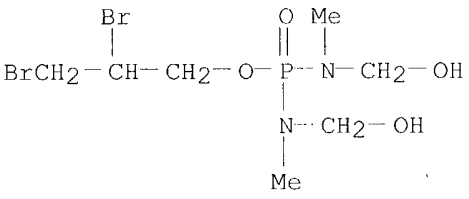
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 88:68938

REFERENCE 2: 85:63098

L12 ANSWER 26 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 59969-71-0 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, 2,3-dibromopropyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,3-Dibromopropyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C7 H17 Br2 N2 O4 P
LC STN Files: CA, CAPLUS, USPATFULL

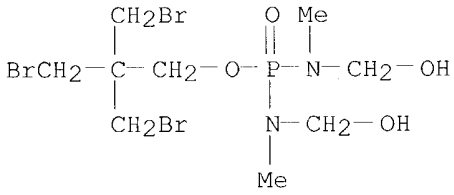


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

L12 ANSWER 27 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 59969-70-9 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, 3-bromo-2,2-bis(bromomethyl)propyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2-Bis(bromomethyl)-3-bromopropyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C9 H20 Br3 N2 O4 P
LC STN Files: CA, CAPLUS, USPATFULL

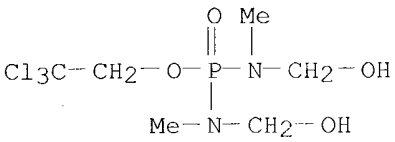


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

L12 ANSWER 28 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 57057-74-6 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, 2,2,2-trichloroethyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2,2-Trichloroethyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C6 H14 Cl3 N2 O4 P
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



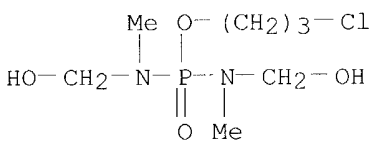
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

REFERENCE 2: 83:207535

L12 ANSWER 29 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 57057-72-4 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, 3-chloropropyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 3-Chloropropyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C7 H18 Cl N2 O4 P
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



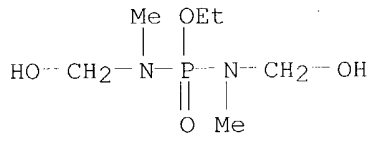
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

REFERENCE 2: 83:207535

L12 ANSWER 30 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 57057-71-3 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, ethyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Ethyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C6 H17 N2 O4 P
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



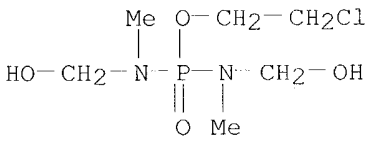
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

REFERENCE 2: 83:207535

L12 ANSWER 31 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 57057-70-2 REGISTRY
CN Phosphorodiamidic acid, N,N'-bis(hydroxymethyl)-N,N'-dimethyl-, 2-chloroethyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2-Chloroethyl N,N'-dimethylol-N,N'-dimethylphosphorodiamidate
FS 3D CONCORD
MF C6 H16 Cl N2 O4 P
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL



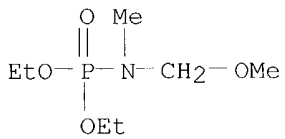
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 85:64751

REFERENCE 2: 83:207535

L12 ANSWER 32 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 53279-96-2 REGISTRY
CN Phosphoramidic acid, (methoxymethyl)methyl-, diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C7 H18 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



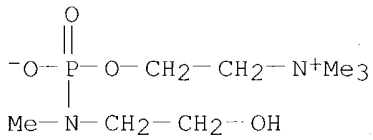
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 101:151196

REFERENCE 2: 81:77163

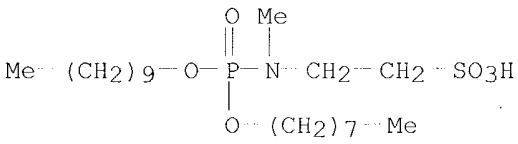
L12 ANSWER 33 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 53214-54-3 REGISTRY
CN Ethanaminium, 2-[[hydroxy[(2-hydroxyethyl)methylamino]phosphinyl]oxy]-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H21 N2 O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 81:104662

L12 ANSWER 34 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 34376-47-1 REGISTRY
CN Ethanesulfonic acid, 2-[[(decyloxy)(octyloxy)phosphinyl]methylamino]-, sodium salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Taurine, N-methyl-N-phosphono-, P-decyl P-octyl ester, sodium salt (8CI)
OTHER NAMES:
CN Sodium N-(decyloctylphosphono)-N-methyltaurinate
MF C21 H46 N O6 P S . Na
LC STN Files: CA, CAPLUS, USPATFULL

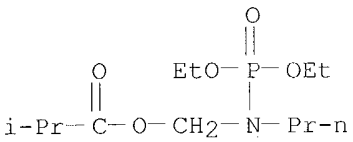


1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 76:101554

L12 ANSWER 35 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 26843-23-2 REGISTRY
CN Isobutyric acid, ester with diethyl (hydroxymethyl)propylphosphoramidate (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidic acid, (hydroxymethyl)propyl-, diethyl ester, isobutyrate (ester) (8CI)
FS 3D CONCORD
MF C12 H26 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

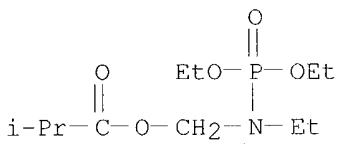


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

L12 ANSWER 36 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 26843-22-1 REGISTRY
CN Isobutyric acid, ester with diethyl ethyl(hydroxymethyl)phosphoramidate (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidic acid, ethyl(hydroxymethyl)-, diethyl ester, isobutyrate (ester) (8CI)
FS 3D CONCORD
MF C11 H24 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

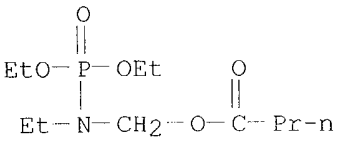


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

L12 ANSWER 37 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 26843-21-0 REGISTRY
CN Butyric acid, ester with diethyl ethyl(hydroxymethyl)phosphoramidate (8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidic acid, ethyl(hydroxymethyl)-, diethyl ester, butyrate (ester) (8CI)
FS 3D CONCORD
MF C11 H24 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

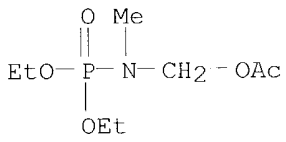


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

L12 ANSWER 38 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 26843-19-6 REGISTRY
CN Phosphoramidic acid, (hydroxymethyl)methyl-, diethyl ester, acetate (ester) (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H18 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

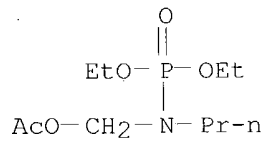


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

L12 ANSWER 39 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 26843-18-5 REGISTRY
CN Phosphoramidic acid, (hydroxymethyl)propyl-, diethyl ester, acetate (ester) (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H22 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

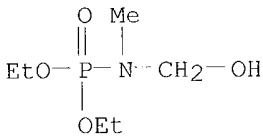


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

L12 ANSWER 40 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 22237-54-3 REGISTRY
CN Phosphoramidic acid, (hydroxymethyl)methyl-, diethyl ester (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Diethyl N-(hydroxymethyl)-N-methylphosphoramidate
FS 3D CONCORD
MF C6 H16 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

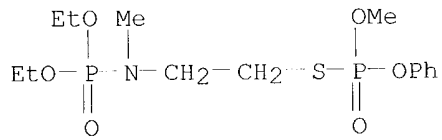
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 80:84657

REFERENCE 2: 71:12484

REFERENCE 3: 70:77274

L12 ANSWER 41 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 21988-68-1 REGISTRY
CN Phosphorothioic acid, S-[2-[(diethoxyphosphinyl)methylamino]ethyl] O-methyl O-phenyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidic acid, (2-mercaptoethyl)methyl-, diethyl ester, S-ester with O-methyl O-phenyl phosphorothioate (8CI)
CN Phosphorothioic acid, O-methyl O-phenyl ester, S-ester with diethyl (2-mercaptoethyl)methylphosphoramidate (8CI)
FS 3D CONCORD
MF C14 H25 N O6 P2 S
LC STN Files: CA, CAPLUS, TOXCENTER

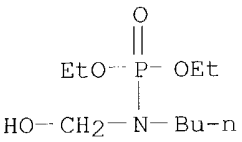


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 71:37865

L12 ANSWER 42 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 18016-09-6 REGISTRY
CN Phosphoramidic acid, butyl(hydroxymethyl)-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C9 H22 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



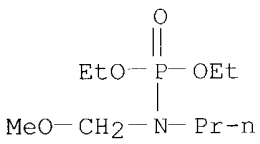
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 71:12484

REFERENCE 2: 67:108125

L12 ANSWER 43 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17648-43-0 REGISTRY
CN Phosphoramidic acid, (methoxymethyl)propyl-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C9 H22 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

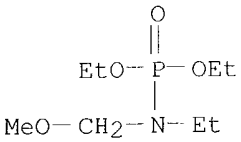


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 44 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17648-42-9 REGISTRY
CN Phosphoramidic acid, ethyl(methoxymethyl)-, diethyl ester (6CI, 8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H20 N O4 P
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

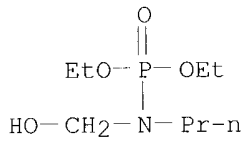
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 67:108125

REFERENCE 2: 54:33833

REFERENCE 3: 52:1600

L12 ANSWER 45 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17648-41-8 REGISTRY
CN Phosphoramidic acid, (hydroxymethyl)propyl-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C8 H20 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

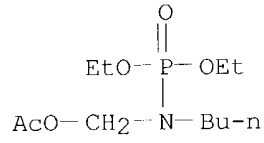


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 46 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-08-0 REGISTRY
CN Phosphoramidic acid, butyl(hydroxymethyl)-, diethyl ester, acetate (ester) (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H24 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

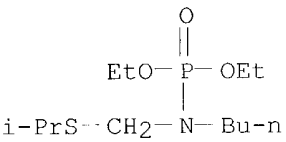


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 47 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-07-9 REGISTRY
CN Phosphoramidic acid, butyl[(isopropylthio)methyl]-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C12 H28 N O3 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

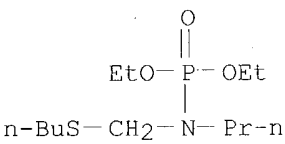


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 48 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-06-8 REGISTRY
CN Phosphoramidic acid, [(butylthio)methyl]propyl-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C12 H28 N O3 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



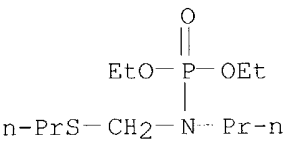
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 49 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-05-7 REGISTRY
CN Phosphoramidic acid, propyl[(propylthio)methyl]-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD

MF C11 H26 N O3 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

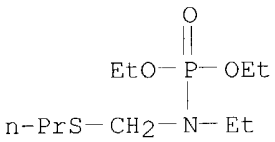


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 50 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-04-6 REGISTRY
CN Phosphoramidic acid, ethyl[(propylthio)methyl]-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H24 N O3 P S
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

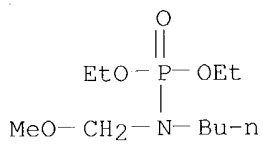


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 51 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17637-03-5 REGISTRY
CN Phosphoramidic acid, butyl(methoxymethyl)-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H24 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

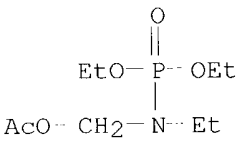


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 67:108125

L12 ANSWER 52 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 17636-68-9 REGISTRY
CN Phosphoramidic acid, ethyl(hydroxymethyl)-, diethyl ester, acetate (ester) (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C9 H20 N O5 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



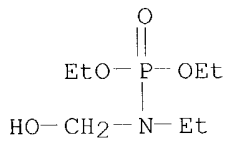
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 72:99936

REFERENCE 2: 67:108125

L12 ANSWER 53 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 16626-92-9 REGISTRY
CN Phosphoramidic acid, ethyl(hydroxymethyl)-, diethyl ester (8CI) (CA INDEX NAME)
FS 3D CONCORD
MF C7 H18 N O4 P
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

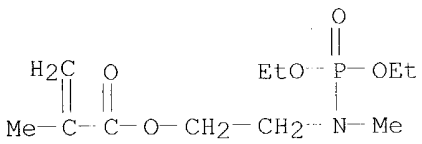
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 71:12484

REFERENCE 2: 67:63664

L12 ANSWER 54 OF 54 REGISTRY COPYRIGHT 2003 ACS on STN
RN 13511-40-5 REGISTRY

CN Methacrylic acid, ester with diethyl (2-hydroxyethyl)methylphosphoramidate (7CI, 8CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidic acid, (2-hydroxyethyl)methyl-, diethyl ester, methacrylate
FS 3D CONCORD
MF C11 H22 N O5 P
LC STN Files: CA, CAOLD, CAPLUS



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)